



Open Space Planner's Workbook

Companion to the Open Space and Recreation Plan Requirements



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Executive Office of Environmental Affairs
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RECREATION PLAN REQUIREMENTS

COMMONWEALTH OF MASSACHUSETTS
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THIS *WORKBOOK* WAS ORIGINALLY DEVELOPED BY EOEAS THROUGH THE COOPERATION OF:
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Arlington Open Space and Recreation Plan, April 1996. Prepared by the Arlington Open Space Committee (Laura D. Boyajian)

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Chicopee Open Space and Recreation Plan, July 2000. Prepared by the Office of Planning and Development, Parks and Recreation, and the Open Space and Recreation Plan Working Group (Kate Brown, Planning Director).

Hardwick Open Space and Recreation Plan, January 1996. Prepared by the Hardwick Open Space Planning Committee (Richard Romano and Lucinda Childs).

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Orange Open Space and Recreation Plan, June 1998 Draft. Prepared by the University of Massachusetts, Amherst, Department of Landscape Architecture and Regional Planning Landscape Planning Studio, Spring, 1996 (Project Manager: Jack Ahern).

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Rutland Open Space and Recreation Plan, May 1996. Prepared by the Rutland Conservation Commission (Karin Leonard, Chairperson).

Springfield Open Space and Recreation Plan, October 1997. Prepared by the Springfield Planning Department (Philip Dromey, Assistant Planner).

Wilbraham Open Space and Recreation Plan, August 1999. Prepared by the Wilbraham Open Space and Recreation Plan Committee (Steve Bosworth, Coralie Gray, Lorelei Hewitt, Bob McCollum, and John Pearsall, Principal Editors).

Woburn Open Space and Recreation Plan, July 1999. Prepared by the Metropolitan Area Planning Commission

Dear Friend of the Environment,

Protecting open space is an essential component in protecting the quality of life for the residents of Massachusetts. Open space – whether urban, suburban and rural - serves a wide range of purposes that support our local economies and ensuring a high quality of life.

Massachusetts loses 44 acres of open space a day or 16,000 acres annually. While the Swift administration has been committed to open space protection and developing new innovative partnerships to protect our states most critically important lands, it is crucial that our land protection partners include local municipalities and that they have the tools necessary to protect their most precious open spaces.

An effective level to start is locally by participating in the preparation of your Open Space and Recreation Plan, which will help local communities and residents collectively identify and plan for open space priorities in their city or town. These plans help guide each community's own decisions to protect natural resources and provide recreational activities for all residents. The municipal Open Space and Recreation plans are one of the tools available to local decision-makers to help them make informed decisions about future growth.

It is my sincere hope that you will find the Open Space Planner's Workbook an invaluable tool as you work toward balancing the needs of natural resources within your community.

Very Truly Yours,

A handwritten signature in black ink, appearing to read "Bob Durand". The signature is stylized with a large, bold "B" and a cursive "Durand".

Bob Durand

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THE IMPORTANCE OF PLANNING FOR OPEN SPACE AND RECREATION

Breathtaking open spaces, lands untouched by human development, critical plant and animal habitats that are legally protected, and quality outdoor recreation facilities more often than not, do not exist in our towns today by lucky accident. If our cherished natural resources are to be preserved, maintained, and restored, it is through thoughtful planning and active stewardship. Without planning, the appearance of a community, the lifestyle of its residents, and the condition of its natural resources can be dramatically altered in a short period of time due to ill-conceived changes in land use patterns.

During the development boom of recent decades, many small and moderately-sized Massachusetts communities saw their populations increase dramatically, straining infrastructure and local resources and degrading the quality of life that originally attracted people. As a result, open space resources diminished and recreational facilities were strained.

Planning provides the opportunity to assess where you are, where you would like to go and how you might get there, before the next development boom catches you off guard. Planning now to protect important open space and recreational facilities can greatly enhance the attractiveness of your community and encourage compatible growth in the future.

To obtain the benefits of development without losing valued environmental assets, you must plan how your community uses its land. Planning allows you to confront and manage many aspects of the town's growth and development in a way that preserves, protects, and enhances the environment. One example of the benefits of planning would be to locate heavy industrial development away from, rather than over, the community's drinking water supply. Such measures allow you to protect valuable resources, preserve the habitats of endangered animal and plant species, or distribute recreation and open space resources more equitably. The planning process can alert you to potential problems while there is still time to prevent them.

Open space plans allow a municipality to maintain and enhance all the benefits of open space that together make up much of the character of the community and protects the "green infrastructure" of the community. Planning this "green infrastructure" of water supply, land, working farms and forests, viable wildlife habitats, parks, recreation areas, trails, and greenways is as important to the economic future of a community as planning for schools, roads, water, and wastewater infrastructure.

Along with enhancing the quality of life, protecting open space can provide profound economic benefits. It can help a community avoid the costly mistakes of misusing or overwhelming available resources. A contaminated water supply, for example, must be treated or replaced through expensive solutions such as piping water from other sources. In contrast, protected open space usually raises the taxable value of adjacent properties and is less costly to maintain than the infrastructure and services required by residential development. Even taking into account the increased tax base that results from development, open space usually proves easier on the municipal budget in the long-run. A publication by the River and Trail Assistance Program of the National Park Service, *Economic Impacts of Protecting Rivers, Trails, and Greenway Corridors*, presents many studies on this subject, including chapters on property values near open space and costs of municipal services for developed land, and is a valuable reference book for use in defending open space protection. Similarly, the Southern New England Forestry Consortium's study, *Cost of Community Services in Southern New England*, illustrates the net fiscal benefit of open space on local tax bases, when compared to residential development. Additional resources on this issue include the Trust for Public Land study on open space and taxes and the American Farmlands Trust, which developed the methodology used in the Southern New England study.

Protecting your community's open spaces is not necessarily synonymous with costly acquisitions. Many municipalities and private nonprofit organizations hold partial ownership interests in land, such as conservation restrictions or agricultural preservation restrictions. These restrictions may be acquired through gift, purchases, or regulations, and are designed to preserve natural resources from adverse future use. An Executive Office of Environmental Affairs publication entitled *The Massachusetts Conservation Restriction Handbook*, explains all of the steps involved in drafting a conservation restriction and gaining state approval. In addition, certain zoning techniques such as conservation subdivision design, can help a community achieve its open space objectives.

Completing an Open Space Plan also allows you to take the next step: planning a greenway network for your region. The Department of Environmental Management has prepared *Creating Greenways: A Citizen's Guide*, which can take the valuable information gathered through the open space planning process and expand it to the planning of a greenway. Greenways provide a way to weave open space, cultural and historic resources and recreation areas into a fascinating system that enhances the experience of living in your town. Moreover, municipal greenways can lead to regional greenways, which reach out to include the gems of nearby towns. The ultimate goal is to begin to think about open space on a regional basis, not only to create these types of greenways, but also to promote resource conservation on a watershed level.

Regional and watershed based planning of open spaces has begun in several coastal communities where continuous public access to and along the shoreline of developed harbors is actively being pursued with technical and financial assistance from the Massachusetts Coastal Zone Management office's Harbor Planning Program (see Appendix B). Greenways along rivers have also been successfully accomplished in several watersheds such as the Nashua, Connecticut, and Deerfield.

Once completed, an Open Space Plan is a powerful instrument to effect community goals. It establishes the community's aspirations and recommends patterns of development that will support them. Courts recognize the effort and organization behind a plan municipalities with plans are more likely to win land use cases and other tests of their municipal statutes.

Finally, a Massachusetts community with an approved Open Space Plan becomes eligible to apply for Self-Help, Urban Self-Help, Land and Water Conservation Funds, and other grant programs administered by the Executive Office of Environmental Affairs' Division of Conservation Services. Open space plans also help to coordinate with ongoing acquisition efforts of state environmental agencies, and local and regional land trusts, and can leverage significant resources.

WHAT IS "OPEN SPACE"?

The term "open space" is often used to refer to conservation land, recreation land, agricultural land, forest land, corridor parks and amenities such as small parks, green buffers along roadways or any open area that is owned by an agency or organization dedicated to conservation. However, the term can also refer to my undeveloped land with particular conservation or recreation interest. Some open space can be used for passive activities such as walking, hiking, and nature study while others are used for more active recreational uses including soccer, tennis, or baseball. Throughout this document, the term is used with this broader definition in mind.



Although open space itself is a simple concept, the factors that affect it, and that it affects, are complex. Through an Open Space Plan, you identify and examine these factors and lay out strategies your community can use to protect and enjoy its character, natural resources and open spaces.

THE ROLE OF THE OPEN SPACE PLANNER'S WORKBOOK

The purpose of this workbook is to help guide you, your planning committee, and your community through the process of writing an Open Space Plan without absolutely requiring a professional consultant. This approach hopefully will keep the planning process more affordable and make local "ownership" and implementation of the action items more likely.

There is another federal grant program, the Urban Park and Recreation Recovery Program (UPARR), which provides matching grants, and technical assistance to economically distressed urban communities. Approximately 30 cities and towns in Massachusetts can be considered for eligibility in this program. For more information, see Appendix G.

The Workbook follows the guidelines given in the Open Space and Recreation Plan Requirements distributed by the Executive Office of Environmental Affairs Division of Conservation Services. In fact, everything contained in the Requirements is reproduced here in two formats.² The text from the requirements is embedded and italicized in the text of this Workbook, and the entire document is presented separately as Appendix A.

The shorter Requirements is particularly useful as a handout for each member of the committee working on the Open Space Plan, to give everyone a reminder of the overall product. Sections of this Workbook can be reproduced for individuals or small groups working on specific parts of the process. This is explained more fully in the section on the Open Space Planning Committee.

Please note that the Workbook is presented in the same order as the Requirements, and hence, as your final Open Space Plan. However, this order is not the best way to proceed as you organize your committee and get down to work. Some suggestions on a logical sequence of events are given on the section about organizing an Open Space Committee. Do not overlook it - it's a very important distinction.



THE OPEN SPACE AND RECREATION PLANNING COMMITTEE

Creating an Open Space and Recreation Plan, whether completely undertaken by volunteers, or supervised by volunteers or municipal staff, will likely require a Planning Committee. Starting the plan begins with taking time to understand what makes a successful plan and to organize the best process to achieve it.

Perhaps the most important thing to understand is that the more you make creating the plan an inclusive process, the better the plan will be. When the plan has broad-based citizen input, with lots of people putting in their two-cents worth, it has more credibility and more people are fired up to put their own ideas into action.

One problem frequently faced by municipalities in Massachusetts is the lack of available professional staff to assist with this effort. Many towns do not have a professional planner. If the choice is made to hire a consultant (or designate one member of the Conservation Commission) for the preparation of the open space and recreation plan, it is important that a committee be established, as described here. Ideally the committee should be involved in all facets of the planning process, including public participation, research, and writing. You want to avoid a situation where very few people have actually read the plan, resulting in recommendations that are solely those of the author. The recommendations made here are applicable regardless of how your community wishes to proceed.

Committee Leader

Getting the most out of the Committee means choosing an effective leader. Oddly enough, the most effective leader may not be the person with the most knowledge about open space, recreation, or the environment. The most important role for the committee leader is to coordinate the work of the committee, motivate the volunteers, and ensure timely completion of the plan before committee members lose interest. The most knowledgeable person often is used to better advantage by providing technical assistance to the leader and various subcommittees. The leader may not even be a member of the board that is responsible for completing the plan, although it is essential that that board be actively represented.

It is important that the person leading this effort have many of the following traits:

- dedication to the project;
- ability and willingness to delegate important tasks (not just grunt work) to others;
- ability to recognize the (sometimes hidden) strengths of others;
- be a "people person," someone who genuinely likes working in a group;
- ability to keep group discussions focused;
- ability to interpret and translate good ideas of others, even when poorly phrased;
- be organized; and
- be able to keep the group's progress on schedule.

² Because the description of how to inventory and map open space was not presented clearly in the *Requirements*, we have reorganized Section 5.

Committee Membership

It is best to involve as many citizens and board representatives as possible. To the extent that they are available, staff from municipal departments and boards should be asked to participate. Some of these people may participate only on the subcommittee dealing with the subject of their interest, others will participate in every aspect of the project. Typically, an Open Space and Recreation Plan Committee will include the following:

- Conservation Commission member;
- Planning Board member;
- Recreation Commission member;
- Historical Commission or Society member;
- members of Board of Public Health, Water Commission, or Public Works Department;
- landowners;
- real estate, development, or business interests;
- citizens concerned about town character and landscape preservation;
- citizens concerned about the environment and natural resource conservation;
- citizens concerned about playgrounds and recreation;
- citizens concerned about trail development and use;
- citizens concerned about rare and endangered species; and
- others you determine to be important.

Forming Subcommittees

Among the objectives of your first meeting should be to review the purpose and tasks involved in the project you are beginning, and to divide the Committee into subcommittees, each of which will be responsible for contributing to specific portions of the plan. You might consider giving everyone a copy of the Open Space and Recreation Plan Requirements so that they understand how everything fits together. Since you will ultimately need information on many subjects, encourage interested Committee members to chair subcommittees on these major topics. Then, give the subcommittees appropriate sections of this workbook to guide their work.



Although the subcommittees (topics) can be organized in any way, this is one suggestion:

- Regional Context, Community History, Landscape Character, and Population Data
- Growth and Development Issues and Environmental Problems
- Geology, Soils, Topography and Water Resources
- Vegetation, Fisheries and Wildlife, and Scenic Resources
- Inventory of Lands of Conservation and Recreation Interest
- Conservation and Recreation Needs Assessment and Inventory of Resource Protection Measures
- Community Goals and Five-Year Action Plan

The leaders of each subcommittee are now responsible for recruiting others to work with them, following the guidelines given in this Workbook. After everyone agrees on a timetable for completing their research and writing, the leader of the whole Committee is responsible for keeping the sub-committee leaders on schedule. One or two people should be assigned to write the final plan. They will collect draft versions of all the required sections of the Plan from the various subcommittees and edit them into a document with a consistent style.

Suggested Timetable

As mentioned earlier, the order of the final Open Space and Recreation Plan document is not the order in which the open space planning process occurs. There is no hard and fast first-step-next-step order that must be followed, many of the "steps" happen concurrently. However, the following chart gives a general idea of one approach to scheduling the process. It assumes that the Open Space Planning Committee has been formed, that it is largely a volunteer process, and that it will take approximately 16 months to complete the plan. (highlight with a yellow marker) that recommend a particular action. Then as you write the Recommendations and Action Plan sections, be sure that each of these actions has been included.

The creation of a thorough Open Space and Recreation Plan may seem difficult at first glance, however by involving many local residents and seeking technical assistance makes it less daunting than it looks. Many Massachusetts agencies, institutions and environmental interest groups are willing and able to assist you with valuable guidance and information. Many have informative websites and some offer advice over the telephone. Others will send a representative to meet with you. The final section of this Workbook is a reference guide and includes lists of organizations and the kinds of services they provide, as well as a bibliography of useful resource materials.

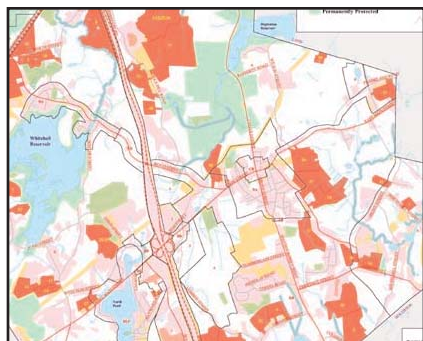
HOW THE PLANNING REQUIREMENTS AND WORKBOOK WORK TOGETHER

This Workbook represents the first update since 1993. There have been a number of changes in the last few years that need to be incorporated into the open space planning process. Many of these changes make the planning process easier, particularly regarding the mapping requirements. There are many new data sets available through MassGIS. New legislation provides enhanced opportunities for municipalities to preserve open space. Finally, there are a number of improvements in the planning process resulting from new techniques used by communities across the state and country. These model approaches are helpful to cities and towns that are preparing their first open space and recreation plan and to those updating their plans.

The following sections include all information found in the Open Space and Recreation Plan Requirements. The format and basic requirements remain the same. The plan must still be written in the exact order as described in the requirements. However, given that many things have changed since the original publication of the Workbook, this version has updated the types of information and mapping required, which reflects the advancement in the availability of data from many different sources. The goal of this update is not to change the requirements or format of open space and recreation plans, but to identify ways in which the planning process could be made easier. This new Workbook also recognizes that many communities have prepared plans in the past, but need only update them. Some information found in prior plans does not require updating and can be left as it was in the previous plan.

The samples from approved Open Space and Recreation Plans that appear throughout this section are used to give you an idea of how to conduct the planning process and write the plan. They are only excerpts and samples from the specific sections to illustrate items addressed in this Workbook, not models to be copied. They also provide opportunities to explain key points in greater detail.

If possible, consider publishing your final report on your local municipal website in addition to making hard copies available for review.



GENERAL MAPPING CONSIDERATIONS

Throughout this guide, you will encounter sections describing the various maps that are required or recommended (as optional) for inclusion in the final open space plan. (Each "Mapping Considerations" section is preceded by the MassGIS logo.) However, as with all elements of good planning, emphasis should be placed on the process, rather than the final product. Maps are very useful in the planning process because they help illustrate geographic and spatial relationships, and can help focus a discussion of land use. If maps are only added to the plan at the end of the process to meet the requirements, a valuable opportunity

has been lost.

Maps related to the resources inventoried in sections 4 and 5 are an extremely important aspect of the plan. Having illustrations of the location of various resources and open spaces helps in understanding how to make wise land use and siting decisions. Likewise, build-out maps may illustrate which resources may be threatened by future development. These maps need to be consulted throughout the development of the plan, before the Goals, Objectives, and Action Plan are determined.

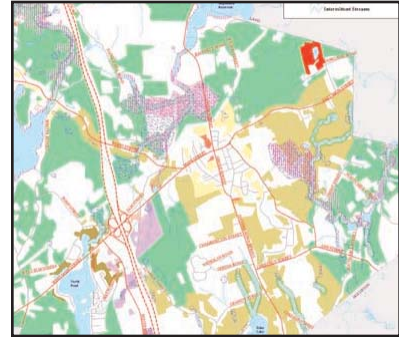
At the conclusion of your planning process, each board should be provided with a set of maps from the open space and recreation plan to refer to when making decisions that change the use of land in the community. Be sure to take the necessary steps in the beginning of the planning process to ensure that multiple copies can

be created easily and inexpensively.

The Executive Office of Environmental Affairs has been building a digital database (computerized collection) of mapped information including the location of natural resources and protected land in the Commonwealth. This geographic information system is called MassGIS. Some of the information needed to do a local Open Space Plan is available from MassGIS. Much of it is available for free download from the MassGIS website at <http://www.magnet.state.ma.us/mgis/massgis.htm>. Maps also can be obtained from your local regional planning agency (see Appendix A for a list). For example, maps are available depicting surface water bodies; parks, refuges and conservation lands; agricultural land; vernal pools and wetlands; water supplies and aquifers; coastal resources; historic and cultural resources; flood hazard areas; and hazardous waste areas. In addition, a free computer mapping software package, called the "MassGIS DataViewer" is being provided to communities to help simplify many of the required mapping tasks. Use of this tool is highly recommended.

The Open Space and Recreation Plan Requirements list the following required maps:

1. Zoning Map - to illustrate Section 3, D.
2. Soils and Geologic Features Map - to illustrate Section 4
3. Unique Features Map - to illustrate Section 4B, and F.
4. Water Resources Map - to illustrate Section 3, C.
 - a) Watershed boundary
 - b) Surface water
 - c) Wetlands
 - d) Flood Hazard Zones
 - e) Zones of contribution to public supply wells
5. Open Space Inventory Map - to illustrate Section 5.
6. Action Plan Map - to illustrate Section 9. Show the effect that successful completion of all actions listed in Section 9 would have on your town. For example, using the Open Space Inventory Map as a base, add in new patterns showing the general location of lands you hope to protect as part of the Action Plan. These areas would have appeared on previous maps as important but unprotected resources. Also show sites on the five-year schedule for capital improvements.



In addition to these required maps, the following maps are recommended as optional:

- A. Regional Context - to illustrate Section 3A.
- B. Historic Town Maps - to illustrate Section 3B.
- C. Population Characteristics - to illustrate Section 3C.
- D. Current Land Use - to illustrate Section 3D.
- E. Existing Infrastructure - to illustrate Section 3D.
- F. Maximum Zoning Build-Out - to illustrate Section 3D.
- G. Plant and Wildlife Habitat - to illustrate Section 4D and E.
- H. Environmental Challenges - to illustrate Section 4G.

What is the Mass GIS Data Viewer?

The MassGIS Data Viewer is distributed on CD and contains MassGIS data for a specific area in Massachusetts (or data for the entire state), and some tools with which to view the data. The Geographic Information System (GIS) data on the CD is a subset of the ESRI ARC/INFO format vector data which MassGIS maintains as Librarian Coverages. The CD(s) may also contain a subset of the image data (orthophotographs and/or scanned USGS topographic maps) that MassGIS maintains.

The CD contains the "MassGIS Data Viewer," a customized ArcView project (an .apr file) which uses the ArcView Avenue object-oriented programming language (ArcView is an ESRI product). It consists primarily of a few key enhancements to native ArcView. These enhancements are designed to make it even easier to work with spatial data. The MassGIS Data Viewer was created specifically to be distributed and work with MassGIS data. However, it also was designed to be generic enough to work with any other spatial data supported by ArcView. The CD has ArcView project files for users that have the ArcView software, as well as a "Runtime" version of ArcView for Windows which removes some of the functionality of the commercial version of the software but which still allows data query, analysis and display, including the ability to create and print maps.

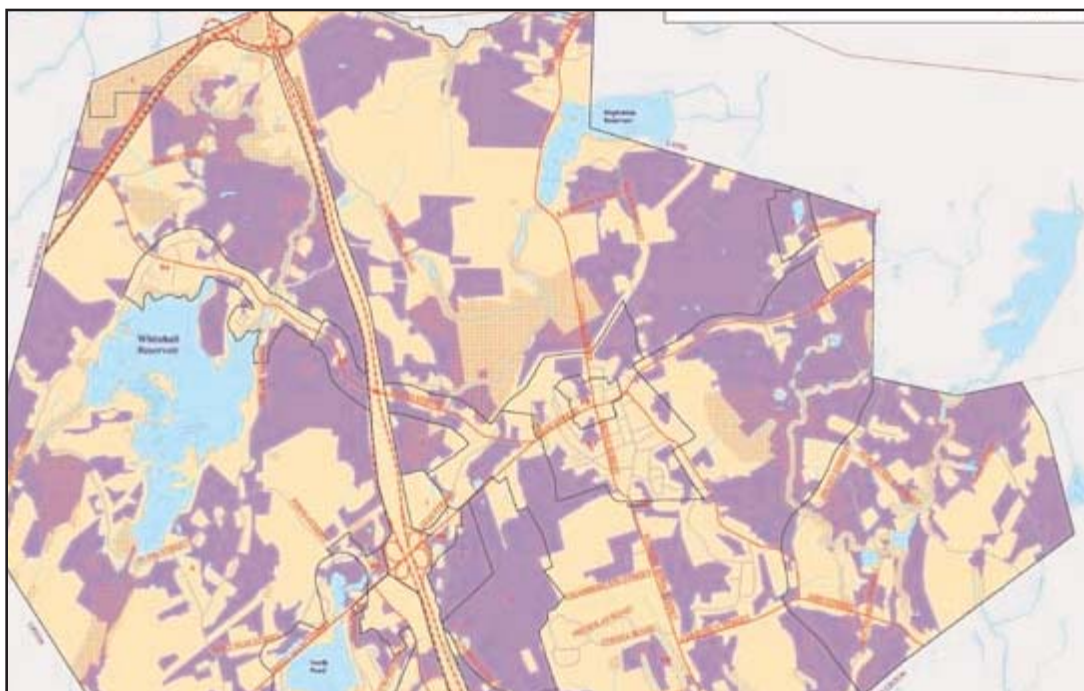
What the Data Viewer Contains

MassGIS Data Viewers are available for a particular region (one town, a few towns, a watershed, etc.) or for the entire state. All Viewer CDs contain the customized ArcView projects explained above. In addition:

Custom Regional Viewers include:

- all point, polygon and vector data that overlap the requested region in ARC/INFO Librarian format (except the Natural Heritage and Endangered Species Program data and point elevations, which must be requested specifically);
- USGS Quadrangle Images; and
- any available Black & White or Color digital orthophotos at 1, 2, and 5-meters in TIFF or MrSID format, (space permitting);

Statewide Viewers include only vector data and are available as a 4-CD set. Images are available separately.





PLAN SUMMARY

Give a brief summary of what is being recommended in the Open Space and Recreation Plan. Mention the overall aspirations of the community that are addressed by the document. This can be an Executive Summary highlighting the critical needs, actions to implement the plan, important issues and identification of major projects.

Describe these aspirations in general terms, such as "protect rural character of town" or "to provide watershed protection". This overall vision should be reflected in the development of goals later in the process. This section should be written after the plan is finished. It is very similar to a Conclusions section. The purpose of putting it first is to give the reader a quick understanding of your open space and recreation goals and needs and how you intend to meet those goals. The target audience for this Section could be key decision makers - make your point quickly and concisely. Think of it as a half-page summary of the entire process that you could hand to a newspaper reporter or to Town Meeting members - something that summarizes the main points of the story with none of the details

Plan Summary for the Town of Wilbraham

The current Wilbraham Open Space and Recreation Plan (OSRP) Committee adopted a broad working definition of open space and recreation planning, one that goes beyond local athletic fields and undeveloped land. Transportation, historical and cultural concerns, for example, may not come to mind when the average town resident thinks of open space and recreation planning. Yet these considerations are significant components of any plan that seeks to connect people with the land on which they live, work and play.

It is easy to take for granted the many important historical and natural resource features in town, even as we drive by them every day. It is very difficult--and often impossible--to mitigate the loss of such treasures. By the time they are gone, we will have lost the opportunity to save them.

This Open Space and Recreation Plan presents the planning opportunities that are available right now. More than a simple update, the new plan establishes guidelines for government officials to consider as they make land use decisions. It also identifies boards and commissions that may take an active role achieving the goals and objectives of the plan.

Plan Foundation

Goals, objectives and actions for the Wilbraham Open Space and Recreation plan were designed to address the following overall areas of concern.

- Education and Community Building: A successful Open Space and Recreation Plan is dependent on the support of town residents; therefore, the action plan must include a mechanism for educating town residents and involving them in the OSRP.
- Sustainable Development: Planning is not an "either-or" proposition, where human land use and environmental protection are always mutually exclusive. With the cooperative efforts of all town boards, careful planning will strike a balance between the two, protecting our town from changes that would permanently alter its ecology, landscape and character.
- Nature and Wildlife Protection: Wilbraham ecosystems support a wide variety of plant and animal life. The town must preserve its unique and special habitats for the future.
- Community Character: Wilbraham residents--old and new--want to preserve and maintain the small-town character and rural atmosphere of their town.
- Recreation and Conservation Facilities and Resources: Wilbraham residents enjoy a variety of indoor and outdoor recreation activities that contribute to the town's quality of life. The analysis of current and future needs will aid in planning for optimum use of all town facilities and resources.
- Trails and Transportation: One significant obstacle to recreation opportunities in Wilbraham is the lack of a formal pedestrian and bicycle transportation network. A significant network of informal trails--on both public and private land---has been defined by recreational vehicles. Combined with utility corridors, these could form the basis of a comprehensive system that would provide many benefits to the town. [Wilbraham Open Space & Recreation Plan]



INTRODUCTION

A. Statement of Purpose

Describe why the plan was written, include an update since the last plan citing past and current efforts to protect and enhance open space and recreational opportunities.

A brief description is all that is necessary, but you want to give the reader an idea of the status of open space planning in town: is this a first-time Open Space Plan or is this the tenth update? Has there been a recent water supply crisis that took everyone by surprise resulting in the realization that comprehensive planning would be better for the future than a narrow band-aid solution for this particular problem? Is there a watershed-wide or subwatershed rationale for protection efforts in a particular area?

Statement of Purpose

The Hardwick Open Space and Recreation Plan was designed out of a need for a coordinated effort to enhance and protect the vast natural and recreational resources in town. The term "open space" refers to the status of land ranging from conservation land, recreation lands, agricultural lands and parks, as well as the broader definition of any lands of conservation interest which are as yet undeveloped. The Hardwick Open Space Committee has made an assessment of the open space and natural resources in the town and developed a plan to accommodate the open space needs of the Community. The planning process has involved public participation, and the resulting plan and recommendations are the culmination of these efforts.

This plan is organized in a manner that allows one to see our future in the context of our past. It describes how the quality of life and economic development have been, and can continue to be, dependent on the natural character of the town. An inventory of soils, geology, water resources, fisheries, wildlife, forests, and scenic and unique resources follows. Specific areas of interest have been included as well, such as environmental problems, agricultural needs, and, finally, the importance of open space to the economy of Hardwick.

With this data in mind, the Open Space Plan then attempts to project the future needs of Hardwick from an "open space" perspective. Both specific as well as general recommendations follow. It is hoped that by articulating the needs and setting goals for our community, the future development and growth of Hardwick can proceed in a manner that will best serve the community.

By reading this plan in its entirety, one will have a comprehensive understanding of the natural resources in town, past and current status of these resources, and future actions necessary to protect and enhance these open space and recreational resources.

[Hardwick Open Space & Recreation Plan]

B. Planning Process and Public Participation

Describe the process used to develop the plan. Name the primary researchers and writers, people who worked on committees, etc. List the meetings, surveys, public participation, municipal assessments, etc. that contributed to the development of the plan. (Note: Support the formation of an advisory committee to monitor progress.)

Public participation lies at the heart of any planning effort. If a plan is to truly represent the views and hopes of the community, the public must be actively involved in developing it. Following is a short list of some of

the techniques planners use to include the public. Note that any good planning process will use a variety of these techniques, and some could be combined within a single event (e.g., working-groups as a component of a public forum, covered by the local paper).

Public Meeting: Under Massachusetts General Law, most meetings held by a municipal board, commission, council, task force, or other body is required to comply with the Open Meeting Law. Notice of meetings must be posted at the City or Town Hall and all interested members of the public must be allowed to attend. As a good rule of thumb, all meetings associated with the development of an Open Space and Recreation Plan should be considered public meetings.

Public Hearing: A legal term for a particular kind of public meeting, requiring more extensive notice (typically publication in a newspaper at least two weeks in advance), recording of proceedings, minutes, and other formal elements. Not all public meetings need to be public hearings.

Public Forum: A meeting held to present material and seek additional input. A moderator is needed to frame and coordinate the discussion, but the emphasis should be on the interaction of the audience (typically viewed as "participants"). Be sure to have a clear focus for each forum-some particular information that will be presented (an open space map, a build-out projection, the results of a survey, etc.) and a particular topic that will be discussed-and stick to it.

Visioning Session and Charrettes: Often a Committee can use a public meeting to create some shared product-for example, a common vision for a region of town, or a design of a new recreational facility. Visioning Sessions emphasize brainstorming and open discussion, and work well for developing consensus on shared goals and objectives. Charrettes emphasize "hands-on" interaction, typically through drawing or mapping project, and work well for efforts involving design problems.

Working-Group Meeting: Meeting in smaller group (5-10 people) can allow for a more careful and involved treatment of a specific topic. Often the real work of the plan gets done through such small groups: drafting specific language for goals, objectives, and actions; dividing up tasks to research and present; deciding what to include on maps; developing alternatives to consider; and so on. Note that working-group meetings can occur on their own or as part of a larger Public Forum ("break-out groups").

Surveys: A survey can be a good tool to gather input quickly from a wide range of residents. However, most planning surveys are not scientific-for example, only people interested in the issue tend to respond. Nonetheless, they can provide a good base to start from, and they help to define the range of opinions in the public at large. Don't underestimate the time required to tabulate and analyze the results, or the possible costs involved with mailing. Consider mailing only to a random sample, or coordinating mailing with town water bills or annual census forms. Also, be careful not to bias the results through the phrasing of the questions; open-ended questions tend to be more reliable (but harder to tabulate) than strict "agree/disagree" or "ranking" questions. See a sample of a survey in Appendix I.

The Media: Even if the public will not come to you, you can still go to them, through the media. Local papers, public access cable television, school newsletters, and other local media channels offer opportunities to inform the public about the project and solicit their input. Do not just include meeting announcements: contribute substantive articles, letters, or guest editorials on the choices being made; participate on cable talk shows to discuss the elements of the plan; and invite the media to attend and record or report on your meetings and public events.

Public Events: Host a walk or event at a critical property that is not protected (with the owners enthusiastic permission) or at a protected and cherished property in town. This could help make the case for protecting open space, and hopefully motivate more volunteers.

Planning Process and Public Participation

The Chicopee Open Space and Recreation Plan was prepared by the Office of Planning and Development and Parks and Recreation Department with the assistance of the Open Space and Recreation Plan Working Group, interested citizens, staff, elected officials and members of various boards and commissions.

The Working Group began meeting in 1997 to evaluate the City's last five-year plan and determine the changes and format for the new one. Visioning sessions were held in 1997, 1998 and 1999. The 1997 and 1999 sessions included an open space component and the 1998 session was held specifically for open space and recreation. Surveys were conducted between January and June of 1998 and included the distribution of a long-form similar to that of our last plan to allow for some comparison of earlier results. A short-form survey was distributed in electric utility bills and reached almost 27,000 households. Surveys were also handed out over the survey period to Boards, Commissions, City staff, elected officials and citizens attending public hearings. All of the Working Group meetings were advertised public meetings and any interested citizen was encouraged to attend.

A public hearing was held on April 24, 2000 to offer the draft plan for public criticism. Prior to the meeting the plan was made available in the Main and branch libraries, the Parks and Recreation Building, and Planning Department office.

[Chicopee Open Space & Recreation Plan]





COMMUNITY SETTING

This section is meant to give a broad picture of your community, placing it in a variety of contexts which illustrate how its character evolved and which suggest how it may need to change to accommodate a continually changing tomorrow.

A. Regional Context

Describe the community's physical location and major watershed address (is it in the coastal plain, foothills of the Berkshires, Connecticut River flood plain?) and what effect location has had on the community's development.

Describe the community's regional context in terms of resources shared with neighboring towns (such as water resources or a mountain range) and how that has effected the community's development. Also describe its socio-economic context (is it an isolated hill town, upper-income Boston suburb, declining mill town). What effect does the economy have on the community's open space and recreation needs?

Specifically include a reference to the watershed in which the Town is located and any regional open space planning efforts that have been conducted on a watershed or other regional basis (such as one prepared by the regional planning agency or a watershed team)

Talk extensively with people in neighboring towns about their resources. Obtain copies of their open space plans.

Regional Context

Political and Physical Context. Holliston is centrally located between three, growing metropolitan areas -- Boston, Worcester, and Providence. It forms the south-east corner of Middlesex County, and borders Worcester and Norfolk Counties to the west and south respectively. While geographically closest to Worcester, Holliston is within the jurisdiction of Boston's Metropolitan Area Planning Council (MAPC) and is part of its South West Advisory Planning Committee. While nearby towns to the north (specifically Framingham, Natick and Ashland) are considered to be "outer suburbs" of Boston, Holliston and several of its abutting communities (Medway, Millis, Sherborn and Hopkinton) are more rural in character.

Two factors have influenced the relative lack of development in Holliston. One is that, while Route 16 does carry a significant amount of east-west* traffic through Holliston, the Town is not located on a major highway, and thus much of the regional traffic bypasses Holliston. Another factor which has limited development in Holliston is the absence of a public sewer system. Reliance on private septic systems limits the types and sizes of business which can locate in the Town; the commercial and industrial development must be low water users (and thus low wastewater producers).

Significant headwaters of the Charles River watershed have their origins in Holliston. These include three major tributaries of the Charles River -- the Beaver Brook-Hopping Brook system, the Chicken Brook system, and the Jar Brook-Bogastow Brook-Dopping Brook system. Because of the impact on both 'water quality and potential flooding downstream, Holliston (and the U.S. Army Corps of Engineers) have sought to protect these stream systems and their accompanying wetlands.

While the natural resource areas (stream, wetlands, ridgelines) run in a north-south pattern, the development impact (roads, railroads, and industrial development in particular) runs east to west. This pattern must be acknowledged in planning for resource protection as well as guiding appropriate development in the future. In particular, care must be taken to protect natural corridors (such as wildlife or water courses) where they cross developed areas.

Conclusions. Holliston's location assures that there will be continuing development pressure, as the three surrounding metropolitan areas expand. The open lands within Holliston have significance beyond the Town lines. There is considerable regional interest * in the protection of surface water quality for the greater Charles River watershed. In addition, the potential linking of trails and wildlife corridors, as well as productive agricultural lands, will increase the value of these open space and recreational assets for the entire region. Holliston must work in close cooperation with its neighboring towns to ensure that land use, zoning, and conservation measures are complementary.

Additionally, it is important to consult with your regional planning agency to understand the degree to which it has conducted regional planning studies or planning projects for other nearby cities and towns.

Local land trusts also should be consulted to determine their involvement in open space planning within the region. This section should describe how land use (highways, shopping centers, recreation areas, water supply, etc.) in adjacent towns affects you - and how your land use affects them. As an example, how does your community's industrial park (or school, or park) affect your neighbor's public drinking supply? Be objective; there are likely to be both positive and negative effects in both directions!

Goals and objectives for the protection of valuable resources (which you'll discuss in Section 8) should address regional resources in neighboring communities that your community may affect (and vice versa), so be sure to keep notes for Section 8. It is also helpful to look at open space and recreation resources located near your community boundary, then check with your neighbor to be certain that their land use is compatible with your protection strategy for the resource. Identify resources of regional significance, such as trails, forests, parks, agricultural lands, bicycle paths, surface water bodies, and aquifers that occupy land in, or travel through more than one community. Discussions with the other communities should include protection strategies that benefit all the communities sharing the resource.

Another benefit of looking at resources regionally is that neighboring communities may have open space and recreation resources that complement each other. These shared resources, once identified and made accessible will not need to be duplicated for each town.

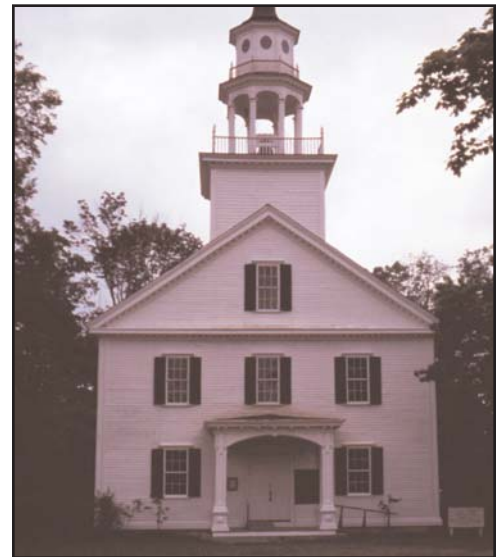
Mapping Considerations

Optional maps can be used to help illustrate the regional context of the community. Rather than developing new maps, consult with your regional planning agency to locate existing maps depicting surrounding communities, water resources, regional transportation networks, and the like.

B. History of the Community

Give a brief summary of the community's history, including the effects of its location as discussed in Section 3A above. Mention the historic and archeological resources that give the community special character. Note: Check with the local historic commission.

The purpose of this section is not only to broaden understanding of what makes your community interesting from a historical perspective, but also to promote understanding of land use patterns inherited from previous generations. This understanding should inform thought about new patterns established pursuant to your community open space plan. Please note that in order to take a look at your community in a more comprehensive manner, it is recommended that a master plan be prepared. The open space and recreation plan would be part of that planning effort, but completing a master plan provides a good opportunity to consider a number of factors beyond general land use and open space. This, in turn, allows a city or town to consider making changes to the zoning code to rectify incompatible land use patterns. For example, industrial zones are often located in or near wetlands because that was where the railroad was a hundred years ago (it was flat land, no blasting necessary). Perhaps the railroad is gone now, but the zoning code may encourage continued expansion of industry in the worst places possible! River corridors have nearly identical histories. Your job is to discover these things and recommend changes in Sections 8 and 9. Note that you will be discussing current land use patterns again in another part of this section. At this point you look at planning from an historic perspective; in part D of this section, you will be asked to look to the future land use planning issues.



The basic facts are probably readily available from the Massachusetts Historical Commission and your local historical commission. However, relating historical development patterns to current problems and opportunities may take some creative thinking.

Consider including reduced versions of old maps that illustrate the growth patterns of the town at different points in history (see below). Many photocopy centers have machines that will make small copies for under a

dollar.

These make reasonable "originals" to be mounted onto your final copy that you have reproduced in quantity. If the budget allows, a screened black-and-white photograph will produce excellent results. Check on the price it may be cheaper than you think!

This is a section that should not require extensive updating when your community is revising its existing open space and recreation plan. To the extent that new information has been made available (i.e. planning documents or cooperative achievements) and it would contribute to this section of the plan, include it.

Mapping Considerations

Existing historic maps of the community are recommended to illustrate this section. Check with your local historic preservation commission or the Massachusetts Historical Commission to see if any exist. The state required town maps to be drawn as early as the 1830's and 1850's, and county atlases were published in the 1870's. MassGIS is embarking on an effort to digitize all forest cover from the 1830's maps. Two good internet sources for historic maps are the collection of historic USGS maps at the Dimond Library at the University of New Hampshire (<http://docs.unh.edu/nhtopos/nhtopos.htm>) and the Library of Congress Panoramic Map Collection (<http://lcweb2.loc.gov/ammem/pmhtml/panhome.html>).

C. Population Characteristics

Describe demographic factors that help identify patterns of need and interest. Consider population trends, density, and family income, as well as major industries, employers and employment trends. The goal is to describe the town's needs for open space and recreation, not just to duplicate parts of the most recent Federal Census report. It may be quite helpful to map this information. The most recent census data are available at www.umass.edu/miser.

Again, the objective is to understand these figures in relation to local and regional open space and recreation resources. You are trying to identify how the resources should be managed to meet the changing needs of the community.

Some of the information on population and trends can be obtained by reviewing past annual reports and calculating how the population has changed. Since each community has had its build-out data presented by the Executive Office of Environmental Affairs, please summarize that demographic information. Regional planning agencies are another good source of information. But go beyond this and consider the effects of various changes, such as those listed below:

Have new recreation facilities been constructed?

If not, should they be recommended in Section 9: Action Plan?

How dense is the residential development in the community?

What is the median family income and how is it likely to effect the recreation needs of the population?

What are the projections and needs identified by the regional planning agency?

It is also important to understand the employment picture, now and in the foreseeable future:

Who are the major employers and where they are located in town?

History of the Community

Woburn was founded by a group of Charlestown residents who decided to establish a new town. They chose Woburn because of the water supply afforded by Horn Pond, and because the surrounding hills provided protection. They settled in the area that is now the City Common. Woburn was incorporated as a town in 1642 and as a city in 1889.

The town was primarily agricultural during the colonial period. The development of transportation facilities helped to establish Woburn as a manufacturing center. The Middlesex Canal was opened in 1803 and the Boston and Lowell Railroad in 1835. The first major industry was shoe and boot manufacturing. During the King Philip's Wars, the town taxes were partially paid in shoes and shoe production in 1855 was valued at \$285,000. By the 1860's the production of leather had become the primary industry.

In 1865, the tanneries of Woburn shipped \$1.7 million worth of leather and Woburn was at the head of the tanning industry in the country. Immigrants from Ireland, Nova Scotia and Canada moved to Woburn to take the jobs in the tanneries and in 1884, 26 large tanneries employed 1500 men producing \$4.5 million worth of leather. By 1915 there was some diversification in the city's economy and residents were making ice cream, machine tools, mops and paper boxes, among other goods. Woburn developed as an early English town settlement and has a notable early burying ground. Suburban growth began in the mid-19th century and has continued. Like much of the region, Woburn's

manufacturing industry underwent periodic stagnation in the 1900's, especially during the Great Depression, and again in the post World War II period. In more recent years, Woburn has become less of an industrial center, and more of a residential area, with over half its working population being employed outside of the City. [Woburn Open Space & Recreation Plan]

*Do they contribute to the "open space" (not protected, but useable) in town?
 What role does agriculture or forestry play in your community?
 What is the likelihood of having new industries move into the community?
 If that is desirable, does the zoning ensure that it be built in the right place?
 If that is not desirable, does the zoning discourage or prevent it?*

For example, in a community with an aging population on fixed incomes, the development of extensive walking trails or the addition of sidewalks may be the most needed recreational amenity. Whereas, in another community there may be a population of primarily young families. This second community would probably have a much greater need for active recreation facilities such as tot lots and ball fields.

The information discussed above needs to be updated every five years. Population and other demographic shifts can have a profound impact on the needs for open space and recreation opportunities.

Mapping Considerations

Maps can be used to illustrate past and future population changes. Good resources for this data can be found at MassGIS and other services hosting U.S. Census/TIGER data, as well as MISER (www.umass.edu/miser/population). Community mapping software packages provided by the U.S. Department of Housing and Urban Development, using MapInfo software, can also be useful for depicting census data.

When using Census data, be careful to take into account the age of the data. Depending on when you are working on your plan, the data may be as much as ten years out of date. Also, be aware that much of the Census data is not specific enough to be useful in determining differences within a town, as Census tracts can be quite large

D. Growth and Development Patterns

This section should pick up where the History section ended, and be written with the pertinent facts from the previous section on population in mind.

The purpose of this section is to understand and consider how growth pressures may impact open space and recreation. The patterns and trends identified here should be correlated with the plan goals and actions addressed in subsequent sections.

As mentioned earlier, it is important to analyze land use planning in a more comprehensive manner, so it is recommended that every city and town prepare a master plan. Such a plan allows a community to examine a number of land use issues that are inter-connected such as open space, land use patterns, housing, transportation, infrastructure, economic development, and natural resources.

The discussion below represents a summary of these issues. If your city or town has already prepared a recent master plan, most of this information can come directly from that plan.

1. Patterns and trends: *Give a brief description of how the town developed and grew (e.g., started as compact village surrounded by farms, roads now lined with "Form A lots." Or, old mill town surrounded by forest, now experiencing heavy residential growth). Think about the changing functions of open space and recreation lands and how they help to define and preserve the town's character. Continue by considering what current land uses and apparent trends mean for the future. Note where future growth would take place based on your community's zoning and environmental resources. Evaluate the consistency of this growth with your commu-*

Population Characteristics

To adequately plan for the Town's future open space needs, the size, age, density and composition of the population must be considered. During the ten year period between 1980 and 1990, Ludlow's population increased by 3.7% from 18,150 to 18,820 according to figures from the Massachusetts Institute for Social and Economic Research. MISER's projections call for the Town's population to increase to over 20,000 by the year 2000. If these projections are correct, Ludlow will need to plan for the outdoor recreational needs of a population approximately 11% greater than it was in 1980.

Ludlow's percentage of low/moderate income households is 32.46% as defined by Federal Department of Housing and Urban Development statistics. In addition, it has experienced an unemployment rate since 1990 which has on average been at least 25% higher than the statewide average. Further analysis of the demographic data reveals a significant poverty rate among the Town's elderly population. 10.1% of Town residents sixty-five or older live below the poverty level. These factors indicate the need for the Town to make some efforts to ensure the availability of affordable housing for its low/moderate income and elderly residents. In 1994 the Town did adopt an Accessory Apartment Bylaw which allowed for the creation of separate dwelling units within single family residences.

[Ludlow Open Space & Recreation Plan]

nity's desire to protect natural resources and provide recreational opportunities. Mapping current land uses is helpful. By the Fall of 2001, MassGIS will have 1999 McConnell land use data for all communities. (Optional Map B)

2. Infrastructure: *Describe the existing infrastructure and the effects it has had on development patterns. The intent is to understand the effects of the town's "gray" infrastructure on its "green" infrastructure, or open space, and to help define and preserve the town's character.* For instance, will projected growth be adequately served by the current water supply? How does the water and wastewater infrastructure in your community affect surrounding water resources? (Optional Map C). Include the following infrastructure systems:

- a) Transportation system, including bicycle and pedestrian facilities;
- b) Public or private water supply systems; and
- c) Municipal sewer service or individual septic systems.



3. Long-term development patterns: *Outline local land use controls and include a current Zoning Map. (Required Map 1). List scheduled and proposed development projects and expansions to the infrastructure then describe the effect this will have on existing open space. Describe what the community will look like with a maximum build-out of the current zoning plan. This will indicate what residential open space will remain if nothing is done. More positively, it will indicate the vulnerable areas needing permanent protection given present trends. Comment on ecological impacts. The EOE build-out data should be included. Mapping long-term development patterns is recommended.*

The EOE build-out data (all municipalities will have been completed before the end of summer 2001) should be included in the plan. This build-out, done in conjunction with the regional planning agency, is designed to show a community how much development (number of new dwelling units and square footage of new commercial, office and industrial space) could occur under the present zoning. The goal is to illustrate development potential, not predict actual growth. However, it is a good tool for those communities that have not looked at future development potential and the impacts that could follow. Many communities decide to have a more detailed build-out analysis done so that they can see the ultimate effect of their current zoning or alternative build-out scenarios. Either way the build-out will indicate what open space may remain if no changes are made to the zoning code. More positively, it may alert you to areas needing permanent open space protection given present trends. Comment on any potential ecological impacts you see.

This is another section that must be updated every five years. Development patterns are sometimes hard to predict because there are a number of factors, such as the economy, infrastructure

Mapping Considerations

A number of maps are needed to comprehensively address the requirements of this section. However, only a Zoning Map is required. It should be available from your Planning Department (many local zoning maps have also been electronically rendered in GIS format by the regional planning agencies, but be sure to check accuracy, especially where recent changes have been made) or from the EOE build-out data provided to each municipality.

Optional maps include Current Land Use and Maximum Zoning Build-Out, both of which are likely to have been completed by the regional planning agency as part of the recent EOE build-out analysis project (contact MassGIS or the regional planning agency for copies and/or digital data). Historic land use/aerial photographs (a current one is provided with the EOE build-out) can also be used to depict changing patterns of development over time. Any existing Infrastructure Maps your Engineering or DPW departments have may prove illustrative as well. Other optional maps include Regional Context and Population Characteristics.

By using subwatersheds as a planning unit, you may be able to identify areas that are not presently impacted by development or pollution. These areas may jump to the forefront for protection, and will be readily seen on map products. An excellent handbook on watershed-based open space planning is available from the Center for Watershed Protection (www.cwp.org). For example, land use maps can be used to estimate the percentage of impervious surface on a stream or pond watershed. The percentage of impervious cover is directly

related to water quality. Build-out maps can be used to estimate future impacts to local water resources using a similar technique.

Growth and Development

Patterns & Trends

The long history of a farm agrarian community gradually evolved into a Hardwick of mixed manufacturing and farming based economy. By the late 19th century, consolidation of small farms as well as an expansion of transportation and population increases in nearby urban areas allowed Hardwick to grow. Hardwick's population peaked at 3,696 in 1915 as a result of agricultural posterity and the success of the Gilbertville and Wheelwright mills.

With the Great Depression and the slow decline of the Gilbertville mills, the population declined to 2,116 in 1945. The number of farms decreased by one-third. Farmland quickly reverted to forest, and the very appearance of Hardwick changed. But as the economy revived in the mid 20th century and as technology improved the efficiency of farming, agriculture in Hardwick began a new era. Upland pasturing fell by the wayside as prime land was maintained for silage dependence upon the automobile, roads were widened and housing was less centralized. State Highway 32 was rerouted through Barre, shifting the town focus away from Hardwick Center. Increasingly residents began to leave the town for employment, goods, and services. The building boom of the 1980's brought a mere 5% increase to the population of Hardwick. This is an exception, as the surrounding towns of Barre, New Braintree, and Oakham saw a much greater population growth (see Table 2). With this modest growth, Hardwick saw the need to expand and provide better schooling by building a new elementary school. Indeed, the entire school district is feeling the burden of unprecedented growth. Quabbin High School is currently on double sessions and expansion is being considered. It appears that the growth of Hardwick is inevitable. While spared by the growth of the 1980's, the next building spree will certainly involve Hardwick to a much greater degree. As residents of the cities flee urban environments for the more affordable and desirable lifestyle of smaller towns, Hardwick will be faced with increasing demands upon municipal services, challenging the very character the town has known for decades.

[Hardwick Open Space & Recreation Plan]





ENVIRONMENTAL INVENTORY AND ANALYSIS

The section is an inventory of your community's natural and cultural resources. The analysis should begin to suggest the Open Space and Recreation Plan goals and objectives that will help protect the biodiversity, ecosystems and ecological integrity of your town. (Note: this environmental data will allow the planning committee to assess the possibility of legal constraints for development in Section 7: Analysis of Needs.)

The Commonwealth of Massachusetts is divided into 27 major watersheds, and each watershed is further divided into subwatersheds. The Open Space and Recreation Plan should address basic water and natural resource features locally and from a watershed context. This analysis should begin to suggest the Open Space and Recreation Plan goals and objectives that will help protect the biodiversity of your town.

A. Geology, Soils and Topography

1. *Discuss the essential structure on which your community is based. Give brief description of topography, geologic features and soils, especially prime and significant (statewide) agricultural soils. Consider resources such as sand and gravel deposits, erodible soil types, significant hills, eskers, kettle holes, caves and cliffs, etc. Much of this information can be obtained from the U.S. Geological Survey (USGS) or the local U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) office www.nrcs.usda.gov. Contact Massachusetts' statewide NRCS office at (413) 253-4351 for soils map data.*

2. *Describe the effects these features have on development, drinking water and wastewater issues, recreational opportunities, erosion, etc. Is your only remaining undeveloped land on steep slopes with lots of ledge? How does that affect sewage disposal options? Where might future water supplies be sited? What are your alternatives then for the soccer field you need? Is much of the undeveloped land in your town old farm fields lots of till with very little ledge? Such land can be very developable. How are those areas zoned? What will be the effects on town character, on traffic, when those changes take place?*

Mapping Considerations

The required Soils and Geologic Features Map (Required Map 2) should show soil types grouped by development limitations. You should map those soils that may determine future land use. Some groupings that you might choose are listed below:

Deep, sandy or gravelly, well-drained and excessively-drained soils, which have implications for both water supply and septic systems.

Wetland soils (peats and mucks), poorly-drained soils with water table at or near the surface for at least a portion of the year, which has implications for septic systems and the eight interests addressed by the Wetland Protection Act. Note that improving septic technology is increasing the ability to locate septic systems.

Soils with slow infiltration rates located on steep slopes (>25%), which have implications for erosion.

Prime agricultural soils.

MassGIS has data sets depicting surficial geology that could be helpful in developing the required maps. You may also wish to consult NRCS maps.

B. Landscape Character

Describe those aspects of the landscape that give your town its own special character. Focus attention on distinctive landforms, unique environments, and areas of particular scenic interest. This can include such things as hills, interesting viewsheds, working landscapes such as agricultural and forestry areas, and historic landscapes. Consider the impact that changes in development might have on the overall scenic character of the town or on recreational use of various areas. Note where that may happen and how adverse impacts might be prevented. Map the notable areas on Required Map 3, Unique Features Map (this map will also include features mentioned in Section 4, F. Scenic Resources).

C. Water Resources

Describe all of the water resources in your city or town, giving particular attention to the availability of recreational access. Coastal communities should contact the Massachusetts Coastal Zone Management office for information on the Harbor Planning Program. (See Appendix B). Known water quality and quantity problems should be identified.

The text should mention existing recreational uses, classification of the water and status in regard to access. In addition, you should contact the Watershed Team Leader for the watershed in which your community is located for any of the information required in this section.

Features to be considered include:

1. Watersheds - map major watersheds and subwatersheds and mention on-going efforts to protect them (local stream teams, watershed associations, and watershed teams). Refer to the Source Water Assessment Program (SWAP) that is mapping all water supplies, their areas of contribution, and threats to the water supply. Watershed Assessments, Action Plans and watershed-wide Open Space Plans are being completed in the state's 27 major watersheds. Contact your local watershed team leader (see list in appendix) for open space planning activities in your watershed.

2. Surface water-lakes, ponds, bays, streams, rivers, and reservoirs; Outstanding Resource Waters (ORW); marine and brackish waters, extent of tidal penetration into estuaries (required on map). Include surface water supplies to water supply reservoirs (required on the map). Consult EOE's The Massachusetts Lakes and Ponds Watershed Action Strategy for information on protecting and restoring lakes and ponds.



3. Aquifer recharge areas (existing and potential drinking water supplies). Zones of Contribution (ZOC's) to public supply wells, which include Zones I, II, and III. DEP has automated (entered in the GIS data base) ZOC's for towns that have had them delineated. Information about this process is available from the municipal water department, the DEP Drinking Water Program (617-292-5770), and MassGIS (mapping is optional; if information is unavailable, cite the need and include in the Action Plan).

Landscape Character

The Princeton landscape is dominated by the graceful, forested peaks of Wachusett Mountain (2018 ft.), Little Wachusett Mountain (1560 ft.), and Pine Hill (1440 ft.) that are clustered in the northern portion of the town. Viewed from south and east, the town of Princeton is seen nestled against this scenic backdrop. As the highest vantage points in central Massachusetts, these peaks also provide glorious vistas of Boston to the east, Mount Monadnock to the north, and Mount Greylock and the Berkshires to the west.

The remainder town is characterized by rolling hills, rocky slopes, and numerous small valleys, with babbling brooks and quiet ponds. Over 70% of the land was previously cleared for farmland, but most of the farms have been abandoned and secondary growth, mixed hardwood and softwood forests have reclaimed these areas. Isolated fields are still hayed periodically and the vistas they afford add enormously to the character of the town. Beautiful dry-stone walls frame these fields and the boundaries of former fields can be traced for miles through the now dense forest. The walls also parallel many of the winding, country lanes and provide enormous aesthetic appeal as well as attractive habitats for numerous plants and animals. [Princeton Open Space &

4. Flood hazard areas-use FEMA maps for zones A and V. You may want to refer to the National Flood Insurance Program Community Rating System Coordinator's Manual published in October 1990 by the Federal Emergency Management Agency, particularly the sections on Open Space Preservation and on Acquisition and Relocation. Actions taken in these areas will affect the rates your community pays for flood insurance (mapping is optional; if information is unavailable, cite the need and include in Action Plan).

5. Wetlands-both forested and non-forested wetlands must be mapped. There are several potential sources of mapped wetlands: for example, the USGS 1:25,000 topographic sheets, the National Wetlands Inventory maps, and MassGIS. See Appendix B for information about contacting the DEP Wetlands Conservancy Program (required on map). Another resources is the Wetlands Banking and Restoration Program which is conducting watershed-wide restoration plans in several of the state's 27 watersheds. The contact number is (617) 626-1177. If a wetlands restoration plan has been prepared for the watershed, it should be included in this description.

Mapping Considerations

All of these factors, including Watershed Boundaries, need to be mapped as part of Required Map 4. Basic information can be obtained from MassGIS in the form of the USGS 1:25,000 topographic quadrangle, as well as a suite of other water resource maps, such as watershed areas, aquifers, flood hazard zones, and zones of contribution to public water supplies (downloadable online at www.magnet.state.ma.us/mgis/massgis.htm if available). MassGIS has a "watershed tools" program, also being utilized by several



watershed associations across the state, which can map the watershed for any point in your community (for example a lake, pond, or stream). More detail can be drawn from the Massachusetts Department of Environmental Protection's Water Atlas, which you can get from DEP's Division of Water Supply or your local water department.

D. Vegetation

In discussing the vegetation of your community, concentrate on the recreation values (types of activity, such as hunting, intensive recreation, scenic viewing, etc) as well as resource protection issues (such as habitat protection, economic impact, soil stabilization qualities, etc.) for lands in your community.

Among the vegetation types to consider, please address the following:

1. General inventory - mention important plants and plant communities that characterize the area;
2. Forest land - include unusual cover types and large uninterrupted blocks of woodland;
3. Agricultural land - these parcels have both scenic values and may serve as cover for wildlife;
4. Wetland vegetation - important wildlife resource
5. Rare, threatened and endangered species;
6. Sites having unique natural resources such as barrier beaches, vernal pools, heath land, quaking bogs; and
7. Vegetation mapping projects that have been undertaken on a regional and statewide basis.

Forest Vision

In 2000, Secretary Durand convened a groups of forest experts to draft an action plan to protect and conserve Massachusetts 4 million acres of forest land. Although approximately 1 million acres of forest are protected from development, the remaining 3.2 million are owned by more than 20,000 individual landowners. Current programs that may be useful in developing Open Space Plans include:

- *the Forest Viability Program- this program will help forest landowners with planning in exchange for a 10 year commitment to keep their land undeveloped;
- *Private Forest Land Initiatives- this program permanently protects forest land through the use of conservation easements;
- *DEM and UMASS Extension- these two organizations are working together with western Massachusetts forest land owners to create the Massachusetts Family Forest Cooperative so that forest management and product marketing can be enhanced;
- *Areas of Primary Forests Initiative- this program is mapping all areas that have never been cleared for agriculture and which may contain unique plant associations.

The Forest Legacy Program (FLP) is a federal program in partnership with states that supports efforts to protect environmentally sensitive forest lands. Designed to encourage the protection of privately owned forest lands, FLP is an entirely voluntary program. Most FLP projects limit development of the land, require sustainable forestry practices, and protect other values.

For more information, contact the Department of Environmental Management, Chief Forester, at www.state.ma.us/dem/programs/forestry/contact.htm

Vegetation

Forests

Summary: Billerica's forests are rapidly shrinking and becoming fragmented. Because forests produce clean air, reduce run-off and flooding, moderate climate, and provide valuable scenic and recreational opportunities Billerica's remaining - forests are an essential part of the effort to maintain the town's quality of life.

Forests

About 25% of Billerica's continuous forest stands are purely coniferous, and most of these consist entirely of white pine. Many upland pine stands grow in areas that were cleared -within the last 50 years. White pine thrives in disturbed conditions, such as old fields, creating even-spaced, even-aged stands. If these areas remain undisturbed, hardwoods will eventually supplant white pine because the pine's seeds need bare soil and sunlight to germinate. White pine also grows in softwood stands on the sand/gravel outwash adjacent to the Shawsheen River. The species composition of this area will likely remain stable over time because most other trees cannot tolerate dry conditions. Pines also thrive in the dry Windsor-Hinckley soil association, found along the eastern bank of the Concord River near the Bedford town line. Additionally, many pines are found in pine-oak communities scattered throughout town.

The greatest percentage of forest cover in Billerica is hardwood. Much of Billerica's hardwoods exist in mixed softwood/hardwood stands (about 60% of the forests shown on the map). Upland till soils occupy much of the town's undeveloped areas and provide the right conditions for hardwood growth. The amount of forest removed for development is under-represented because old fields grow back into forest, and wetlands progress over time from open marsh to closed forest.

Hardwoods in Billerica include oak, maple, ash, hickory, and birch.

It is important to note that forests re-inhabiting disturbed areas are significantly different from the forests that originally grew there. The overall diversity of trees, shrubs, and herbs is lower because agriculture has reduced soil quality, and because many herbaceous species take hundreds or thousands of years to recolonize. The secondary forest's scenic, -recreation, and wildlife features are, therefore, less valuable than those of the original forest.

Open Fields

Open fields have disappeared even faster than forest in Billerica. Only a small percentage of this loss stems from "ecological succession," or the process of fields reverting back into forest. Pastures tend to be on dry, gently rolling upland areas, and this is precisely where most of Billerica's development has occurred. Developers prize dry pastures because the sandy layers of till pass septic percolation tests and site preparation costs are low. Many animal species, such as the bobolink, require old field environments to live. The ecotone found between forest and open field is especially rich in animal and plant species. Open fields offer scenic panoramas and add to rural character. Because old fields in Billerica are rare, a few should be protected with conservation restrictions, or acquired by the town.

Wetlands

More than 800 acres of Billerica are wetland. Many of these wetlands are now forested with red maple, hemlock, elm, swamp oak, willow, and black gum. The drier sandy edges of these low, wet areas may also support white pine. Shrubs such as highbush blueberry, sweet pepperbush, speckled alder, swamp azalea, and spicebush are prevalent in the understories. Open wetland area edges are vegetated with buttonbush, poison sumac, winterberry, and silky dogwood. The emergent wetland species include cattail, phragmites, cowslip, sedge, rush, and purple loosestrife, an invasive exotic. Habitat adjacent to wetlands and surface water is an important scenic and conservation resource and needs to be protected. More information about wetlands and specific recommendations appear in the Water Resources Section of this plan.

Natural Heritage and Endangered Species Program

The Natural Heritage Inventory identifies six vascular plant species in Billerica that are threatened, endangered, or of special concern. These plants are listed in the table below and specific descriptions of these plants appear in the appendices. As the inventory of the Natural Heritage Program expands through ongoing fieldwork and research, further data may become available. The state agency hopes that public awareness of these species leads to the rediscovery and protection of these rare plants.

[Billerica Open Space & Recreation Plan]

Mapping Considerations

An optional map depicting Plant and Wildlife Habitat is very useful, although fewer sources exist to provide assistance. Detailed Plan Community maps have been completed for Southeast Massachusetts and the Housatonic watershed. The state's "Biomap" includes information from thousands of rare and endangered sites and maps the most significant and viable natural communities surrounding these sites.

Contact MassGIS for the most current resources available, including data from the Natural Heritage and Endangered Species Program. MassGIS also has a statewide map of large forest blocks and agricultural land.

Fisheries and Wildlife

Orange contains a relatively large amount of upland and bottom land wildlife habitat. The forests of the Town consist of large unbroken tracts of dense forest that allow for good species movement within Orange and with the surrounding region. The habitat for terrestrial species in Orange has been increasing over the years due to the natural reforestation of agricultural lands and timber harvest areas. As a result, some interior animal species that require large tracts of land may also be increasing. The Town still has a sizable number of active agricultural areas, which provide an important ecological function for the maintenance of edge species (those species that require this transitional zone, or ecotone, for daily activities.)

Orange also contains an extensive network of streams, rivers, and forested and unforested water bodies, including Lake Mattawa, Tully Pond, Packard Pond and Whites Pond. These important ecosystem components house large numbers of aquatic species that add to the Town's overall species richness. The combination of these three landscape components in the Town's rural matrix--wetlands, forests and edge--provides for exceptional biodiversity, high quality wildlife habitat, and unique visual characteristics. In turn, these provide abundant recreational opportunities.

Habitat Analysis Procedure

Inventory

Forests and wetlands are the most prevalent habitat types in Orange, and so they are the most important ones to consider in an open space management plan for the Town. For this report, an inventory was made of these areas and they were mapped for the purpose of this analysis. Urban, agricultural, and rural residential areas were also inventoried because they are also important to the Town's overall matrix.

Habitat analysis begins with the identification of rare, threatened, or endangered species. In Orange, two areas were identified in the Massachusetts Natural Heritage Atlas as inhabited by rare or threatened species. For security reasons, the species are not identified in the atlas. But their general locations were labeled as protected on Map 15, Areas of High Biodiversity. The next step in the habitat analysis was to inventory the corridors for wildlife migration. Riparian systems were identified that provide for aquatic species movement and forested corridors were identified for terrestrial movement. Forested corridors also included hedgerows, or tree corridors through residential and urban areas.

Assessment Procedure

Due to the complexity of the ecological requirements of wildlife species, it is impossible to take into account the requirements of all species in the Town. For this report, two target species were chosen for which to assess the quality of the Town's wildlife habitats. Target species are animals whose presence can be considered to represent a particular habitat. And it is assumed that healthy habitat for target species will also fulfill the requirements for a large variety of other species. They are useful in a small scale planning effort like this one because they can provide an overall framework for biodiversity and ecosystem health within the Town. [Orange Open Space & Recreation Plan]

E. Fisheries and Wildlife

This discussion should be similar to the one in the previous section, that is, an inventory of wildlife species found in the community, with consideration of necessary steps to protect them. The following items should be included in your description:

1. Inventory - General description of wildlife and wildlife habitats, including shellfish where appropriate (both federal and Massachusetts fisheries agencies have classified and inventoried shellfish beds and are good sources of information);

2. Information on vernal pools - (see the Natural Heritage Atlas, described below, for locations of "Certified Vernal Pools"; maps of "Potential Vernal Pools" which identifies thousands of locations are available.

3. Corridors for wildlife migration- The Division of Fisheries, Wildlife, and Environmental Law Enforcement (DFWELE) program has prepared guidelines for gathering and mapping ownership and other data for river corridor lands; and

4. Rare Species, including federal and state listed endangered, threatened and special concern species- The Natural Heritage and Endangered Species Program (NHESP) has prepared an Atlas of Priority Habitats for rare species. This Atlas, updated every two years, also includes maps of Estimated Habitats, for use with the state Wetlands Protection regulations, and of Certified Vernal Pools. A list of the rare species known from each city or town is available on the Natural Heritage website at www.state.ma.us/dwfele/dwf/nhesp. For an analysis of how your town's rare species and natural communities may be important on a statewide basis, see Our Irreplaceable Heritage: Protecting Biodiversity in Massachusetts, available from the Natural Heritage Program. Help with interpreting these maps and setting priorities for protection among rare species sites also is available from Natural Heritage by contacting the Habitat Protection Specialists there. Natural Heritage has

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also completed the "BioMap" for the entire state and for each municipality, delineating important priorities for the the entire state and for each municipality, delineating important priorities for the protection of the biodiversity of Massachusetts.

Mapping Considerations

Again, an optional map depicting Plant and Wildlife Habitat is very useful. The state "Biomap" and potential vernal pool maps are available for each municipality. Plant community maps are available for certain sections of the state. Contact MassGIS for the most current resources available, including data from the Natural Heritage and Endangered Species Program.

F. Scenic Resources and Unique Environments

This section should identify and map (part of Required Map 3: Unique Features Map) those areas that contribute to the community's character. These resources may or may not fit neatly into one of the previous categories, but should be included here and their importance discussed. These are subjective judgments with no right or wrong determinations. It is up to each community to define those resources that fit into this category and explain why.

Your own community and the Open Space Plan Public Process is the best resource for mapping these important local features. No state agency or federal bureau knows your local landscape as well as you do, and no one is more able to determine what is truly of value to the community. Work with volunteers to survey and map these resources, perhaps as an "overlay" to the other natural features described in this section.

Environmental Challenges

Leicester's industrial and commercial activity has left a legacy of several environmental problems. Many of the sources of point pollution have been identified and contained, but seepage from failing septic systems in Cherry Valley continues to threaten water quality. Additionally, potential problems may exist from new development, hazardous waste sites, erosion, and sedimentation that threaten ground and surface water.

There is cause for concern along Rt. 9 from Leicester Center east to the Leicester/Worcester border. Much of this stretch of road lies within the Water Resource Protection overlay zoning district where the soils have a poor ability to filter contaminants. Development impact along this road has the potential to pollute surface and groundwater supplies, specifically in the Henshaw Pond reservoir area. The Massachusetts DEP, which monitors reported spills, has identified 60 sites in Leicester, mostly along Route 9, where spills of fuel oil or other hazardous materials have been handled improperly between 1987 and 1995. Leicester's industrial legacy also has the potential to be a threat to environmental quality. The soil's retention of toxic materials from the manufacturing process at many of the mill sites will pose a threat well into the future.

De-icing of the runways at the Worcester Airport and the capped landfill have also been identified as possible sources of contamination of surface and ground water within the Water Resource Protection Overlay District. Monitoring wells have been installed around the landfill to test the groundwater for contamination. To date there appears to be no significant threat at the landfill, but on-going de-icing could be an issue.

Failing septic systems continue to be a problem in the Cherry Valley section of Leicester. While the town's sewer system has expanded greatly over the past decade, there currently is no hook-up to Cherry Valley. Many of the septic systems in Cherry Valley are old and poorly functioning and the soils have a poor ability to filter household wastes. The town of Leicester has prioritized this area for future sewer expansion and expects to complete sewer infrastructure by 2000 with the connection to the Upper Blackstone Waste Facility through the City of Worcester.

Other causes of environmental problems are erosion and sedimentation of streams and rivers and erosion on slopes greater than 15%. Development on unsuitable land and in existing open space threatens not only the character of the town but also ground and surface water supplies that the town relies on so heavily.

[Leicester Open Space & Recreation Plan]

1. *Scenic landscapes* - include notable areas such as hilltops, stream corridors, open meadows, agricultural landscapes, scenic views and scenic roads. Consult DEM's Scenic Landscape Inventory www.state.ma.us/dem/div-r-c.htm, as well as local residents.

2. *Major characteristic or unusual geologic features, and any other resources for potential protection and exploration.*

3. *Cultural, archeological and historic areas.*

4. *Unique environments, include state identified Areas of Critical Environmental Concern-* Identify and describe areas or ecosystems that contain a combination of critical resources; for example, areas that include important surface waters (ORW's), wetlands, wildlife habitats (especially Priority Habitats for rare species and Natural Heritage BioMap priority areas; see above) or prime agricultural or forest lands. Discuss how and why the resources and their interrelationships are unique or critical. The Massachusetts Areas of Critical Environmental Concern (ACEC) program (<http://www.state.ma.us/dem/programs/acec/index.htm>) can be used to protect areas of regional or statewide significance.

If there are any designated ACEC lands within your city or town, they must be identified and described. Information on ACEC's can be obtained from DEM.



Mapping Considerations

Your own community and the Open Space Plan Public Process is the best resource for mapping these Unique Features (Required Map 3). Data on ACEC's can be found at MassGIS. 6

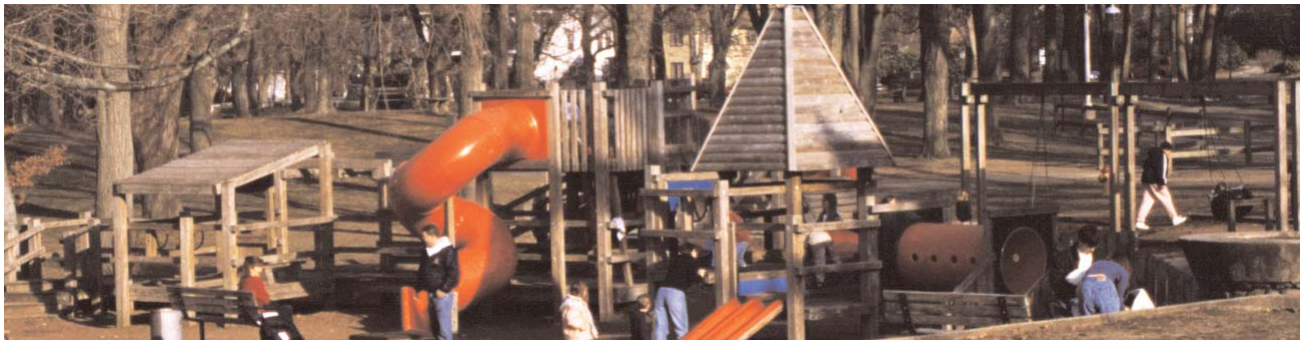
G. Environmental Challenges

Discuss the environmental challenges in your community and region that influence open space and recreation planning. This section is helpful in seeing where environmental challenges currently exist or may occur. You should look at these environmental challenges from both a local and regional context to see how they may potentially impact open space and recreation planning. Discuss environmental problems in your community and region that will influence open space and recreation planning. Contact DEP, the regional planning agency, and the applicable watershed team for information (see Appendix A and B for contact information).

Mapping Considerations

Discussion and mapping of Environmental Challenges is encouraged. The regional offices of DEP can provide a printout of local 21E sites. Consult Appendix B for references. Some of these features (for example, 21E sites) have been mapped by MassGIS and may be available for downloading (www.magnet.state.ma.us/mgis/massgis.htm).

1. Hazardous waste and brownfield sites
2. Landfills
3. Erosion
4. Chronic flooding
5. Sedimentation
6. New development
7. Ground and surface water pollution, including both point and non-point sources
8. Impaired water bodies, both in terms of water quality and water quantity (available through DEP)
9. Others



INVENTORY OF LANDS OF CONSERVATION AND RECREATION INTEREST

This inventory describes ownership, management agency, current use, condition, recreation potential, public access, type of public grant accepted, zoning and degree of protection, for each parcel. The information may best be presented in map and matrix form with an accompanying narrative. (Required Map 5.) All municipally owned conservation and recreation facilities and programs must be evaluated for accessibility to people with disabilities (please refer to The Open Space Planner's Workbook, Appendix H.)

This section studies the degree of protection from destruction or degradation that is afforded to various parcels of land owned by private, public and nonprofit owners.

**Private lands can be protected in perpetuity through deed restrictions, or conservation easements (yet some easements only run for a period of specified number of years and those lands are therefore not permanently protected open space).*

**Lands under special taxation programs, Chapter 61, 61A, or 61B, are actively managed by their owners for forestry, agricultural, horticultural, or recreational use. The town has the right of first refusal should the landowner decide to sell, and change the use of the land, therefore, it is important to prioritize these lands and consider steps the community should take to permanently protect these properties.*

**Lands acquired for watershed and aquifer protection are often permanently protected open space.*

**Public recreation and conservation lands may be permanently protected open space, provided that they have been dedicated to such uses as conservation and recreational use by deed. Municipal properties may be protected via the Town Meeting or City Council vote to acquire them.*

**Private, public and non-profit conservation and recreation lands are protected under Article 97 of the Articles of Amendment to the State Constitution.*

This is one of the most critical sections of the Open Space and Recreation Plan. In this section, you will identify existing open space and recreation properties in town that are legally protected lands, as well as lands that are essential for natural resource or recreation purposes that are not protected. You may discover some surprises as the research uncovers which lands have the most likelihood of remaining "open space".

Organization of Section 5

Begin this section with a short introduction to define what is meant by open space, what is meant by "protected" property, and why it is so critical to protect vulnerable properties. Explain to your readers that the inventory will include public, nonprofit, and private properties. Some of the land may already be protected open space dedicated to conservation or recreational use, and others will be identified for future acquisition or other protection measures. The section is divided into two subsections, the first on Private Lands, the second on Public and Nonprofit Lands. The following describes information that pertains to the all of Section 5 in general.

Which properties should be included in this inventory?

Lands that are protected in perpetuity, as well as any lands that may have some conservation or recreation interest that are not protected should be included in the inventory. This can include any land that is currently undeveloped, regardless of ownership. Land owned by a public entity, nonprofit, or private party will all be included. Some publicly owned land is not protected, and some privately owned land is. The primary objective of this section is to consider all valuable open land and identify those parcels that are permanently pro-

tected and those that are vulnerable and may be adversely developed in the future.

When is property considered to be legally protected open space?

Article 97 of the Articles of Amendment to the State Constitution, or simply "Article 97", protects certain lands acquired for natural resources purposes, meaning "conservation, development and utilization of the agricultural, mineral, forest, water, air and other natural resources". Furthermore, a 1973 opinion of the Attorney General stipulates that land acquired for these purposes cannot be converted to any other use without the following actions: 1.) the local conservation commission must vote that the land is surplus to its needs, 2.) the park commission must vote the same if it is parkland in question, 3.) the matter must be taken up at Town Meeting or City Council and pass by a 2/3 vote, 4.) the town must file an Environmental Notification Form with EOE's MEPA Unit, and 5.) the matter must pass by a 2/3 vote of the Massachusetts Legislature. Finally, if the property was either acquired or developed with grant assistance from EOE's Division of Conservation Services (i.e. Self-Help, Urban Self-Help or Land and Water Conservation Fund), the converted land must be replaced with land of equal monetary value and recreational or conservation utility. While conversions do occur, the process is purposefully onerous in an attempt to protect these conservation and recreation lands in perpetuity. Lands protected by Article 97 are often owned by the municipal conservation commission, recreation commission, water department, or by a state or federal conservation agency (i.e. state EOE agencies or the federal National Park Service). Lands purchased for general municipal purposes are not protected by Article 97. Private lands can also be permanently protected lands if the deed is restricted by a Conservation Restriction, Agricultural Preservation Restriction, Historic Restriction or Wetlands Restriction.



How do we determine if a property is legally protected open space?

Lands owned by municipal conservation commissions and water departments are usually protected, and lands held by EOE agencies, the National Park Service and USDA Forest Service are also protected. However, it may be necessary to do some research at the Registry of Deeds or at Town Hall to make a final determination. The deed may stipulate that the land is to be managed by the conservation commission or park commission, or that it was gifted to the town with deed restrictions or for park or conservation purposes. If the property was acquired or developed with DCS grant assistance, the grant agreement should have been recorded as an adjunct to the deed. Land acquired by the town can also be researched by looking that the Town Meeting Vote or City Council Vote authorizing the acquisition, with an eye toward the intended purpose of the acquisition or the managing municipal agency.

Consider the following:

Some publicly owned lands can be sold or developed easily either to private parties or for other public purposes. For example, school playgrounds and ballfields are often not protected parklands and can be developed the next time the school needs an addition. You may want to consider protecting these lands by a Town Meeting vote.

Some deed restrictions may only last for a period of years (term) and not in perpetuity.

A word about Massachusetts' special taxation programs

Private landowners can manage their properties for open space purposes and benefit by a reduced property tax under three distinct special taxation programs. Chapter 61 is for forested lands, Chapter 61A for agricultural lands, and Chapter 61B for recreation lands. These owners have taken the initiative to actively manage their property for various open space or recreational purposes, and should be commended. However, it is important to remember that landowners can withdraw their properties from these programs at any time. If the property is up for sale, the town has the right of first refusal or the ability to assign its right to a nonprofit, but

the window of opportunity is a very short 120 days. It is therefore important to inventory and prioritize these properties before a "For Sale" notice is delivered to Town Hall. It is also important for Conservation Commission members to note that this notice is delivered to the Board of Selectmen, not the Commission. An Action Plan item recommendation could be to ensure that the Commission is notified as well.

What information is necessary for each property?

A matrix with accompanying text and map (Required Map 4) is one way to present the inventory. For each property, be sure to list:

- Name and Ownership of the Property
- Managing agency (this is not always the same agency that owns the property)
- Current use
- Condition - only mention this for lands owned by your community
- Public access - is it open to the general public, is there a fee
- Access for People with Disabilities (see Appendix H)
- Recreation potential
- Zoning
- Protection status - is it protected open space, or not
- Type of grant received, if any (i.e. Self-Help, Urban Self-Help or Land and Water Conservation Fund)
- Deed Restrictions - i.e. conservation restriction held by local land trust, right-of-way, etc.

What about access to protected public conservation and recreation sites for people with disabilities?

All municipal property and programs must be accessible to people with disabilities. While this can make for interesting design challenges, it is certainly possible to make park and conservation areas accessible without destroying natural resources or aesthetic values. All municipal park and conservation areas and programs must be evaluated as part of this planning effort, and additional guidance is provided in Appendix H: ADA Access Self-Evaluation. The data you gather for the Accessibility Report will be reflected in many sections of the Open Space and Recreation Plan. The site evaluations will help determine priorities for renovation and development plans. Any outstanding accessibility issues should be mentioned in the Analysis of Needs (Section 7), Goals and Objectives (Section 8) and Five-Year Action Plan (Section 9).

A. Private Parcels

Inventory significant, perhaps due to size, private holdings. Please note that it is best not to publish the list of owners since it could alienate a potential seller or put the local realtors on notice (keep a list on hand in the

Inventory of Lands of Conservation and Recreation Interest

Following is an inventory of areas that are important to the Town due to their current open space and/or recreational use. Private as well as public sites have been included. Though continued open space or recreational use is not guaranteed on those private sites identified, these parcels nonetheless are important to the Town. Undeveloped private lands provide aesthetic amenities, maintain the community's rural character, and assist in protecting the Town's natural resource base.

The inventory is divided into two overall categories based on Massachusetts Division of Conservation Services definitions: protected and unprotected lands. Protected lands are public or semi-public parcels which are permanently committed for conservation purposes, which is not true for all public land. The unprotected lands category is a mixture of Town-owned land (all Town-owned land not committed for conservation purposes) and private land (all land enrolled in MA General Law Ch. 61, 61A & B and other private lands which due to low intensity of use add to the quality of open space in the Town). The unprotected lands are divided into five sub-categories which are: park and recreation land; multi-purpose open space land; Chapter 61B private recreation land; Chapter 61 forest and wooded land; and Chapter 61A agricultural land. In addition, agricultural land which is not enrolled in Chapter 61A, but which adds to the rural character of the Town, is indicated by A0 on the Open Space Inventory map. The owner, manager, acreage, a brief description, the funds used for acquisition, condition, recreation potential, public access, and degree of protection is noted for each site.

Ownership and assessment information is based on fiscal year 1996 assessors records. The zoning of each site is also noted. Six zoning districts have been established in the Town: Residential (R), Business (B), Industrial A (IA), Industrial B (IB), Aquifer (A), and Water Resource (WR), with the latter two being overlay districts.

Conservation Lands

Conservation lands total 811 acres. Twenty-eight sites were identified. All of these sites are protected through either public ownership by the Conservation Commission, Water Department or Concord Water Department, or semi-public ownership such as the Littleton Conservation Trust. The 28 sites identified are distributed across the Town with Oak Hill at 221 acres, the Town's largest multi-purpose site.

Park and Recreation Land

Park and Recreation areas cluster near the Town Center. The four sites identified total 14 acres and provide a variety of active recreational opportunities for Town residents. [Littleton Open Space & Recreation Plan (partial)]

office, but do not publish it). These lands may be significant due to size, natural resources, or recreation potential. Many will not be protected, and they are likely to be areas you may decide to try to permanently protect in the course of developing your Action Plan (Section 9). Typically private lands that are of conservation or recreation interest are:

1. Agricultural Properties - Chapter 61A, Agricultural Preservation Restriction (APR) program and other agricultural land, prime or statewide significant agricultural soils, include lands not currently in agricultural use.

2. Forested Land - include unusual cover types, large uninterrupted blocks of woodland, large single ownerships of woodland, tree farms and management woodlands, and Chapter 61 lands.



3. Areas significant for water resource protection- such as high-yield aquifers, lake shoreline, or river corridors.

4. Priority areas for protection of rare species, exemplary natural communities, and associated ecological lands derived from the Natural Heritage Atlas and the state biomap. Also note that some regional biodiversity assessments have been done and can be consulted.

5. Less-than-Fee Interests - lands encumbered by conservation restrictions, wetland restrictions, watershed protection restrictions, historic preservation restrictions, etc.

6. Private Recreation Lands - some may be classified as Chapter 61B (e.g. private golf courses, marinas, Fish and Game clubs, ski areas, etc.).

7. Estates

8. Major Institutional Holdings - some colleges and private schools may have recreational facilities, hospitals may have extensive open space acreage, etc.

9. Other resources - corporate holdings (may already have ballfields on them), landfills planned for closure and available for reuse, brownfield sites (Contact EOE's Brownfield Director) quarries with recreational potential, etc.

B. Public and Nonprofit Parcels

This is a descriptive inventory listing facilities, and evaluating conditions, current use and potentials for greater use. Note whether or not the land is protected open space, the amount of public use/access allowed, and the source of funding if the property was acquired or developed with DCS grant assistance (Self-Help, Urban Self-Help or Land and Water Conservation Fund). Communities that have passed the Community Preservation Act, and the Cape Cod Land Bank Act must also track open space properties acquired with those funds. The information may best be presented in map and matrix form with an accompanying narrative.

1. Public conservation and recreation resources - federal, state, county, and municipal lands and facilities for conservation and recreational use.

a) Federal: some examples are:

- National Park Service (protected)
- USDA Forest Service Forest Legacy Restrictions
- Department of Defense (may have recreational lands, they are likely to be unprotected)

b) State: some examples are

- EOE's Agency land - protected
- Other state lands - unlikely to be protected open space

c) Municipal - please note that some municipal parkland is not protected open space, such as school playgrounds and ballfields.

d) Nonprofit Lands- most of these will be protected

- Local Land Trusts and similar private nonprofit conservation organizations
- Major nonprofit conservation organizations such as:
- Massachusetts Audubon Society

- The Trustees of Reservations
- The Trust for Public Land
- The Nature Conservancy

e) Other public, unprotected lands - state hospitals, prison grounds, state and federal schools and institutions, etc.

Mapping Considerations

A map depicting protected and unprotected open space in the community is Required Map 5: Inventory of Open Space. Unfortunately, although MassGIS maintains a data layer on open space, it is typically drawn from past Open Space and Recreation Plans, and thus is likely to offer little new information or assistance (although it will be in GIS digital form, for each of use). Your local Assessor's Office or Planning Department may offer some assistance, especially if your community has begun to implement a computer mapping system linked to the Assessor's database; each parcel should be associated with an assessor's land use code, which can then be used to generate maps.

If this plan is an update, much of the inventory is likely to remain the same. However, there may be some parcels that were developed, while others may have been permanently protected. Other properties may have become compliant with the Americans With Disabilities Act requirements. Revise the inventory to reflect such changes.

Be sure to differentiate between protected and unprotected property. Perhaps you can use hatching (parallel lines) to denote protected areas, and stipples (scattered dots) for unprotected land of conservation and recreation interest. When mapping private holdings, use a general buffer around a feature such as a river.





COMMUNITY VISION

In this section, discuss how the community's overall open space and recreation goals, or visions, were obtained, and describe those goals in broad statements.

A. Description of Process

Briefly describe the process used to determine what the citizens of the community value. The process could have been a series of public meetings, surveys or questionnaires as mentioned in Section 2. These opinions, and the examination of trends and resources, should be used to guide the articulation of your community's overall goals.

B. Statement of Open Space and Recreation Goals

These goals should be stated in very general, broad-brush terms: what is the overall vision for the community in the future and what it should look like. Be careful not to jump to specific objectives or actions yet. Stay at the "big picture" level.

The goals should describe an "ideal" open space and recreation system that would meet the variety of needs that were identified through biological and ecological analyses, expressed in community surveys, inferred from facility use, or implied by local development policies and any other resource protection plans, existing resource protection plans, or as a result of known facility deficiencies (as described in more detail in Section 7).

Description of Process

An open space and recreation survey was designed during the winter of 1997/1998 by Amy Ansell with the assistance of the Open Space and Recreation Plan Committee. The survey was based on examples of similar surveys, including a recent survey completed in Belchertown, and examples published by the Executive Office of Environmental Affairs. After the initial survey was designed with the Committee, it was reviewed by Dr. Michael Lewis, Professor of Sociology at the University of Massachusetts, Amherst, who made recommendations as to how to remove bias or confusion from several of the questions. The revised survey was then tested by members of the Committee on family members and friends. The finalized survey was then mailed out to over 2,000 property owners in Monson, based on the town's tax rolls. In addition, several hundred blank surveys were distributed to local meeting places such as supermarkets, schools, post-offices and municipal buildings in order to ensure that as many residents as possible had access to the survey. Articles about the community survey were written in the local newspaper. The survey was also administered at the local high school. Survey respondents were encouraged to mail in responses or drop them off at several locations around town.

A total of 392 survey responses were mailed in or deposited in the drop-boxes in the town. Although the survey was meant to be anonymous, many of the respondents did not remove the mailing label attached to the back of the survey, and some respondents volunteered time or resources for continuing the work of the open space plan. In addition, an anonymous donation of \$200 was received in order to support land acquisition.

A special team of students from the University of Massachusetts Senior Landscape Architecture Studio input the survey responses into a spreadsheet program to tabulate the results. Written comments, along with the tabulated results, were considered in order to draft the broad goals.

The students met with members of the town on several occasions in order to gain more information about attitudes and concerns about open space and recreation, including a meeting on February 25th, and again on March 24th. At these meetings, the students presented their initial findings and solicited questions and responses from citizens in order to refine their understanding of the town.

It is conceivable that the goals of your community may remain unchanged from previous open space plans. However, it is important to review the input received during the public participation program to determine whether there has been any shift in the public sentiment.

[Monson Open Space & Recreation Plan]

Statement of Open Space and Recreation Goals

The Town of Monson possesses a rich rural heritage of field and forest, stream and wetland, ridgeline and valley vistas. Four broad goals have been identified through the community meeting process, interviews with key informants, discussions with the Open Space and Recreation Plan Steering Committee, and a community survey which reflect the appreciation that the local townspeople share for the rural character of their town:

- Protect sensitive natural resources from adverse and inappropriate development.
- Avoid development in areas of potential hazard and target appropriate areas to receive growth.
- Preserve the rural character of the town.
- Expand and manage recreational open-space opportunities.

Thus the intent of the open space planning process should be to present an open space and recreational management plan based on a sensible sustainable resources policy.

[Monson Open Space & Recreation Plan]





ANALYSIS OF NEEDS

In this section, discuss the implications of all the material that has been presented in the previous chapters. This chapter should be a systematic examination of what is needed to achieve the community's stated goals.

Analysis of all the data you have collected is the point on which the entire planning process turns. It is during the analysis phase of the process that you examine everything you have learned so far: your community's environmental resources (described in Sections 4 and 5), what the citizens would like the community to become (described in Section 6), and now, where the gaps are (for example the lack of recreational facilities, lack of resource protection, or the need for an acquisition strategy). Review the data and make lists of problems and potential solutions, opportunities and potential actions that will combine to become an approach to meet your community's stated vision and goals.

Section 7 should describe any shortfall between what the community has today and what it would like in the future for both open space resources and recreational opportunities. Potential actions and potential solutions will be developed during this analysis phase for use in Section 8 - Goals and Objectives, and Section 9 - the Five-Year Action Plan.

A. Summary of Resource Protection Needs

Document your statement of needs with data you have collected from the environmental inventory in Section 4 and the inventory of public and private lands of conservation and recreation interest from Section 5. Work toward protecting large core areas, linked via riparian and upland corridors, that will maintain or restore your town's ecological network - your community's "green infrastructure". Note gaps in the wildlife corridors, greenways, linkages to major forest or agricultural resources in adjacent communities, trail networks, and riverways and other surface water bodies. Refer back to the regional or watershed context, with a particular focus on common interests within the watershed. Appendix E, Land Protection Options may also be helpful. If this process generates discussion on solutions, keep notes for Sections 8 and 9.

It is important to note that resource protection can be achieved by a variety of means, not just the purchase of property. Other options can include limited development, regulatory controls, conservation zoning, implementation of the Community Preservation Act (discussed under Section 9), and cooperative use of recreational facilities on a regional basis.

Summary of Resource Protection Needs

Only a small percentage of Springfield's land has escaped urbanization, but a sizeable portion of the undeveloped land is marginally developable wetland with high resource value. The Springfield Conservation Commission recommends that all remaining wetland areas be preserved through public acquisition or control. This policy recognizes the cumulative effect of past instances of wetland destruction that have permanently altered the environment by lowering the water table, increasing the frequency of local flooding and lowering the quality of water entering Springfield's lakes and streams. In addition, wildlife habitats and potential recreational resources have been irretrievably lost.

This policy is consistent with the Massachusetts wetland policy outlined in the Statewide Comprehensive Open Space and Outdoor Recreation Plan (SCORP), a policy which, according to the SCORP, has resulted in a much lower rate of wetland loss in Massachusetts than in other states. Most respondents to the survey distributed to neighborhood organizations in May 1992 agreed with the "no net loss of wetlands" policy. *(continued)*

Areas recommended for preservation are described in Appendix III and are identified on the Open Space Map. Many have been targeted for protection since the early 1970's when the U.S. Department of Agriculture, Soil Conservation Service (SCS) evaluated Springfield's natural resources. Two studies were conducted by SCS, a soil survey of undeveloped land and a natural resource inventory. These studies have guided the Conservation Commission in identifying open space areas compatible with their land acquisition goals. Areas recommended for acquisition are generally associated with three categories of wetlands.

Streambelts: Springfield has already set aside significant acreage along the north and south branches of the Mill River, Schneelock Brook, Pecousic Brook and Entry Dingle. These areas serve to protect adjacent flood prone areas. In addition, they form linear greenbelts adaptable to the development of hiking trails and provide a high degree of visual relief in otherwise monotonous expanses of low-density housing. Extensions are proposed to the north and south branches of the Mill River and Entry Dingle. Portions of the streambelt along Jamaica Brook and the lower portion of the Mill River are also recommended for preservation.

Sites bordering rivers, lakes or ponds: The increasing demand for water-orientated recreation can be alleviated through public ownership of land adjacent to the City's many streams, lakes and ponds. Seven sites have been selected by the commission primarily for their proximity to bodies of water, although each satisfies a wide range of conservation goals.

Wetlands: While it is recognized that sites categorized as streambelts or as access sites to streams or lakes often incorporate "wetland areas", a separate wetland category is employed here to designate those areas classified as marshes, swamps or bogs. Every wetland plays a vital role in flood control and water purification and each type has a distinctive ecosystem to which a variety of wildlife is attracted. Marshes are treeless tracts of shallow water dominated by cattails, sedges and other aquatic plants, while swamps are a further stage of succession of marshes in which water tolerant shrubs and trees such as red and silver maples are present. Bogs were formed in kettle hole depressions created during the last glacial period about 10,000 years ago. Eight wetland areas are included in the acquisition program.

In addition to protecting privately owned wetland areas through public acquisition, the city must protect resources already in public ownership from pollution and activities which diminish their recreational value. Programs to alleviate stream bank erosion and eutrophication of lakes and ponds are essential. Pollution abatement programs that affect all surface waters in our urban environment must be supported by federal and state environmental agencies.

Finally, maintaining high quality open space resources can only be achieved if the citizens of Springfield respect park and conservation land. Degradation of parks and natural areas through vandalism and dumping must be controlled through education and policing. Through continued participation of private organizations and citizen councils, a great deal of progress has been made. Over the past few years these organizations have volunteered to clean up and maintain several neighborhood parks. Based on the survey responses, a public education campaign to complement clean up efforts is needed so that more people become aware of the location of conservation areas and understand the reasons for protecting natural resources. [Springfield Open Space & Recreation Plan]

B. Summary of Community's Needs

Include data on recreation and conservation needs from the Community Setting section, as well as information gathered from surveys, questionnaires, public meetings, and Massachusetts Outdoors, the Massachusetts Statewide Comprehensive Outdoor Recreation Plan (SCORP) for demand in your area. (www.state.ma.us/dcs) Remember to include the needs of special populations, such as people with disabilities and the elderly and also consider the frequently overlooked needs of pedestrians and bicyclists. Input from the municipal Parks and Recreation Director is important to determine the need for new active recreational facilities and playing fields. The National Recreation and Park Association (NRPA), online at www.activeparks.org, is a useful source of information to identify standards for the amount of open space or playing fields within a community of a given size.

Note that questionnaires, surveys and public meetings may document people's desires for various facilities that actually conflict with resource protection needs that you have uncovered. For example, people may call for swimming areas to be opened along a reservoir, while a recent water quality study may have indicated a need to exclude bathing in the reservoir. Be candid. It's a fact - you cannot please all of the people all of the time.

You may also discover citizens asking for a facility that already exists. This is frequently true for hiking trails in the more rural communities. In this case, the solution may be to develop improved public outreach, accessibility or fee structures.

Obviously, this section will require revisions based on new information if the open space plan is an update of a previously approved plan.

Finally, summarize any needs identified as a result of the Americans With

Disabilities Act (ADA) report findings (see Appendix H).

Summary of Community's Needs

The recreational needs of Springfield will not radically change in the foreseeable future. The population has grown slowly in the 1980's and 1990's, though some increase in the youth population has occurred particularly among minority groups. A nearly stable population is projected into the next century.

Active and passive recreation needs are currently addressed by the Parks and Recreation Department within the constraints of budgetary resources. Demand by special interest and demographic age groupings are for the most part satisfied but deficiencies do exist. A desire for more active recreational facilities and programs has been expressed by neighborhood representatives. Active recreational programs for youth is the most pressing recreational need. Lack of facilities and main-tenance has been cited as the most significant deficiencies in the park system, although security and programming are also major concerns. Past surveys have indicated a willingness on the part of neighborhood residents to accept a fee system to pay for facilities and maintenance. The idea of private enterprise providing recreational services for a user fee is another idea that has been receptive in the past to neighborhood residents. Generally speaking, there exists a desire for more and better maintained facilities in existing neighborhood parks, especially those in inner-city neighborhoods.

One goal of the Park Department is to provide a diverse array of recreational programs for all age groups.

Upgrading substandard facilities will allow for the expansion of recreational programs. While all parks require periodic updating, such as the replacement of playground equipment, the following more heavily used neighborhood and community parks require more extensive renovation to expand their recreational potential.

[Springfield Open Space & Recreation Plan]

scenic and active potentials', a brownfield site with redevelopment opportunities or other atypical resources. See Appendix F for guidance on developing management plans for specific conservation areas.



C. Management Needs, Potential Change of Use

Mention specific current and future (i.e. if specific recommendations are adopted) management needs, such as staffing or conflicts of use. Are local boards and agencies (such as recreation, open space committee, school, DPW and conservation commission) communicating? Are certain areas threatened by abutting development?

Does your conservation commission receive Chapter 61 right of first refusal notices concurrently with the Board of Selectmen? Also include special opportunities, e.g., a quarry with rock climbing potential, a soon-to-be-closed landfill with

Management Needs

In many cases residents expressed needs which can only be achieved through a change in the management or ownership of resources in Rutland. For example, there was a strong desire for additional recreational programs in Town, but there is no organization in place to deliver the requested programs. Fortunately, the Recreation Commission was re-established in September of 1995 as a direct result of this study. The following additional management needs have been identified to help achieve other program or development needs:

- Coordinate with governing authorities the transfer of the Rutland State Hospital facility to the Town for appropriate community uses;
- Develop a fee for service system which will enable residents to pay for desired recreation programs;
- Recommend that the Planning Board review and update zoning ordinance and subdivision regulations which will encourage the preservation of open space. Continue the development of an Open Space Bylaw;
- Recommend that the Town hire the appropriate staff to help implement the recommendations of this Plan and to seek grants to support open space and recreational needs;
- Establish the position of a year-round recreation director to run the recommended recreational programs and to coordinate the recreation facility improvements; and
- Establish the position of Conservation Agent to provide technical and administrative assistance to the Conservation Commission.

[Rutland Open Space & Recreation Plan]



GOALS AND OBJECTIVES

In this section, the statement of vision and general goals from Section 6 and the data analyses from Section 7 are synthesized and expanded to create a comprehensive set of goals and objectives.

Begin by describing how you arrived at these goals and objectives. If your community has an Open Space Plan from previous years, look at the objectives that were included then, and determine whether they merit being included now. That is, have needs changed so that those objectives do not make sense any longer, or are they still good objectives that need continued attention?

Be careful not to make a long list of planned actions here. Keep in mind the conceptual hierarchy: differentiate between the vision and goals (general concepts), objectives (concrete ideas for accomplishing goals within certain timeframes), and actions to be discussed in Section 9 (specific activities that achieve the objectives). Appendix E, Land Protection Options, may help generate ideas and Appendix C, identifies some land trusts.

A goal of ADA accessibility of open space and recreational areas could be addressed here as well. Please note that the categories developed as sections of the report are not necessarily the best outline for organizing and presenting your objectives. Go back to the community goals and organize your objectives into categories that fit appropriately. During the planning process, your goals and objectives may be altered several times due to what you discover about your needs. The planning process is always cyclical.

Goals and Objectives

The following list presents Arlington's four [editor's note: only first two shown here] open space goals along with their more specific objectives. The OSPC [Open Space Planning Committee] chose to list each objective under the goal in which it fit most appropriately; however, overlap between some goals and objectives was unavoidable.

The OSPC believes the below open space goals and objectives best reflect the town's open space needs. The actions to achieve these goals and objectives are listed in Arlington's Five-Year Action Plan (Section 9).

Goal A : Preserve, protect, and enhance Arlington's open space.

Objectives:

A-1: Preserve and protect natural heritage:

- a. Preserve and protect watersheds and waterbodies.
- b. Preserve and protect wildlife (flora/fauna).
- c. Preserve and protect other natural areas.

A-2: Preserve, protect, and enhance Arlington's parks and other recreational space.

A-3: Preserve, protect, and enhance Arlington's historic open space sites and their surrounding lands.

A-4: Use state legislation and local regulation to protect and enhance open space.

A-5: Use existing town regulation and create new town policy to protect and enhance open space.

A-6: Acquire and enhance new open space lands.

Goal B Increase public use and awareness of Arlington's open space through increased public access and stewardship.

Objectives:

B-1: Ensure access to all open space for all demographic groups.

B-2: Provide greater use of and improved access to large bodies of water for active and passive recreation.

[Arlington Open Space & Recreation Plan]



SECTION 9 - FIVE-YEAR ACTION PLAN

In this section, you establish a year-by-year timetable for specific actions to accomplish the objectives listed in the previous chapter. Through this process, priorities are established based on goals and objectives. The action plan, in addition to establishing priorities, should identify specific tasks, the schedule for accomplishing them, a responsible party for implementing the action, and where possible, a budget for accomplishing the task. All of this research will be instrumental during public meetings, when you may be trying to justify a Prop 2 ½ override to acquire land, get approval for zoning changes, or implement the Community Preservation Act.

An Action Plan Map (**Required Map 6**) showing the desired results of your action plan should be included in this section. This can be a completely new map, or it can be made by using a copy of the Inventory of Open Space Map (**Required Map 5**) with an overlay of clear acetate or mylar which highlights the areas needing additional protection, maintenance, etc. Please note that it may not be prudent to single out specific parcels for acquisition, but rather to highlight the general area. An example may be to shade the area along a river or trail corridor (a general buffer zone) rather than to identify specific landowners.

Specific projects required ensuring accessibility to all areas pursuant to ADA should be listed.

Again, avoid a long list of actions presented in a random order. With thoughtful organization, you can be sure that all important goals and objectives are being addressed and listed by relative priority. Probably the most effective organization is by goals and objectives, rather than by month. This way you can see whether you are giving preference to certain objectives at the expense of others. The sample below illustrates one way to do this.

There needs to be some flexibility assumed with the timetable. For example, a property may be put on the market earlier than anticipated. The Action Plan should allow early action if opportunities arise out of sequence.

Each year, the community (perhaps your newly-formed Open Space Committee or Community Preservation Committee) should evaluate implementation activities of the previous year and revise the Action Plan accordingly. To the extent that certain action items may not have been implemented from the previous plan, they should be carried over and re-prioritized if they are still relevant. This will make the formal five-year update an easier task. The update process is explained throughout this workbook and is summarized in Appendix D.

It is recommended that as part of the five-year action plan, that some entity be established to oversee management and implementation of the open space and recreation plan. As discussed above, it could be the existing open space committee or a new committee established pursuant to the Community Preservation Act as discussed below. Some towns have appointed a special committee comprised of representatives from several departments, boards and citizen committees. The goal is to have one group that has the responsibility of ensuring communication, coordination and implementation.

**Arlington Open Space and Recreation Plan
Five-Year Action Plan**

This Five-Year Action Plan provides an action and a proposed timetable for each open space and recreation goal and objective. All of the following goals, objectives, and actions are subject to funding and appropriation. Because OSPC [Open Space Planning Committee] thought it difficult and beyond their jurisdiction to assign each action to a specific town entity, the OSPC has proposed (see Section 7) that the town develop a Standing Committee on Open Space (SCOS). The SCOS would bring together relevant town entities and other interested residents to help implement the goals, objectives, and actions in this open space plan.

Objective A-6: Acquire and enhance new open space lands

<u>ACTIONS</u>	<u>SCHEDULE</u>
Develop a system to monitor availability of land parcels that line Mill Brook, Spy Pond, and other water bodies; Maintain communication process will be ongoing between the town and owners of these and other key land parcels	begin June 1996, but ongoing
Identify parcels that would probably be lost as open space if the town did not acquire them	1996
Identify land parcels (with potential for open space use) that are contiguous to existing open space parcels	1996
Negotiate for permanent deed restrictions to protect sensitive, invaluable or irreplaceable open space or priority parcels	1998
Lobby for the use of a major portion of the Reeds Brook site to be used for a balanced mix of active and passive recreation and open space in an integrated site design	1998

Objective B-1: Ensure access to all open space for all demographic groups

<u>ACTIONS</u>	<u>SCHEDULE</u>
Formalize and publicize the town policy of creating accessibility for people with disabilities at every developed, redeveloped, or improved site	begin June, 1996, but ongoing
Develop and coordinate a uniform signage system (to guide and inform) at all major open space sites (see also Objectives B-3, B-4)	1996-7
Publish (in the Arlington Advocate and other local media channels) information on means of transportation to major open space sites	1996-7
Investigate opportunities for increased parking at open space sites - both regular and handicapped - particularly at Mystic Lakes	1997
Increase the elderly's use of open spaces by providing more benches at sites such as Minuteman Bikeway, Menotomy Rocks Park, Reservoir Path, and Arlington Center	1997
Develop accessibility plan at all open space sites for people with disabilities (e.g., ensure appropriate parking spaces at or near site entrances)	1998

Open Space Acquisition Priorities

Any open space acquisition scheme—whether to preserve one acre or 10,000—needs to address the issue of prioritization. Before any parcel is to be purchased, before any money is sought for preservation, the community must assess the natural values and recreation potential of the land (both objective and subjective measurements) and determine in advance which lands are the highest priorities to preserve. Such an approach contrasts sharply with the piecemeal, ad hoc decision-making processes that so often determine open space acquisitions.

Given the large acreage of land currently either in Chapter 61, 61A or 61B, it is important to establish criteria that will assist the cities and towns in prioritizing parcels that become available. When land is removed from these chapter programs, a municipality has only 120 days to exercise its right of first refusal to purchase the property. With the numerous legal complications that can arise, as well as the procedural requirements that must be met for a municipal purchase of land, 120 days does not provide much leeway for the Town to exercise this right.

This right of first refusal also can be transferred to a non-profit conservation organization, so it is important to know how to work cooperatively with these organizations. Thus, communities have another option if municipal purchase is unlikely.

Tax title land falls into a similar category. Once such parcels have been identified, they can be evaluated to determine whether they should be preserved or sold.

Open Space Acquisition and the Community Preservation Act

With the recent passage of the Community Preservation Act (chapter 267 of the Acts of 2000), communities have a new tool at their disposal to fund open space and recreation land acquisitions, as well as park development projects. The Act provides a local option for municipalities to adopt property tax surcharges of up to 3% to fund open space acquisition, affordable housing, and historic preservation activities. Communities adopting such measures will also qualify for state matching funds from the Department of Revenue's Community Preservation Trust Fund.

Guidelines are available from EOEA to describe the process by which a municipality can implement the Act (<http://www.mapc.org/>). The basic process is outlined below:

1. The Town Meeting or City Council adopts the CPA (may be initiated by a petition drive);
2. The exact amount of property tax surcharge (up to 3%) is set;
3. The CPA is submitted to local voters as a ballot question;
4. A Community Preservation Committee is appointed;
5. The Committee conducts a public process to recommend CPA projects;
6. The town meeting or city council authorizes spending on particular projects (on an annual basis, at least 10% each must be used for affordable housing, historic preservation, and open space/recreation projects);
7. The community notifies the Department of Revenue that the CPA has been adopted, and qualifies for a yearly State CPA grant (up to a total of \$25 million is to be made available for matching grants each year).

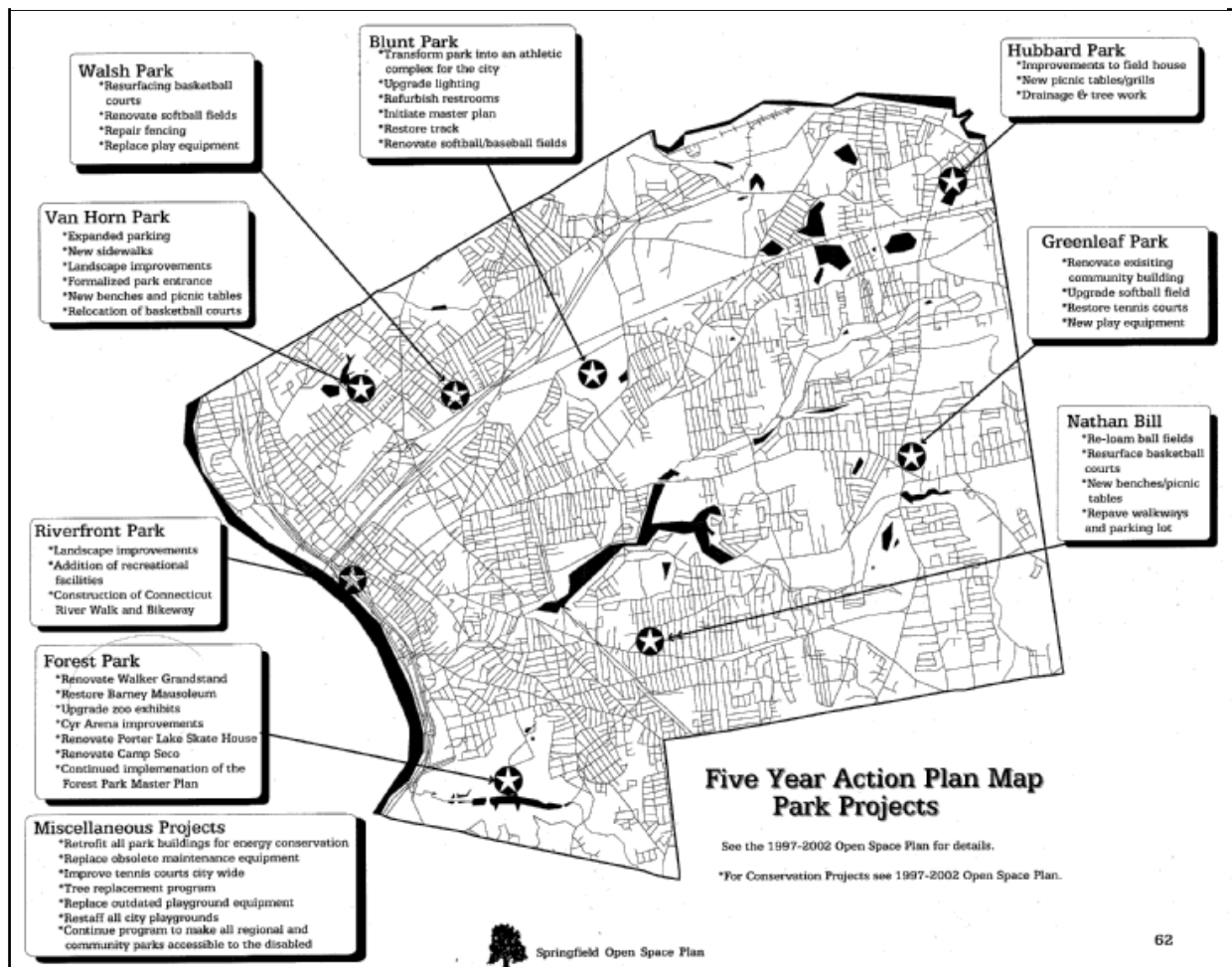




Mapping Considerations

A single, easily reproducible optional map can help to focus discussion and provide a good illustration of the five-year action plan (**Required Map 6**). A street map, open space map, orthophotograph, or other standard "base map" can be overlain with text and symbols illuminating the overall goals of the plan (e.g., "protect and develop trail network"; "preserve water resources"; etc.). Illustrate the effect that successful completion of all actions set forth in this section would have. Special symbols can be used to denote unique or treasured resources, or areas to be acquired. Don't try to cram too much information onto this one map: treat it as a summary, hitting only the most important aspects.

Springfield Open Space & Recreation Plan





SECTION 10 - PUBLIC COMMENTS

First, distribute your draft Open Space and Recreation Plan to the Planning Board, chief elected official, Conservation Commission, and your regional planning agency (see Appendix A). Letters of review from these groups and individuals must be included in the final plan submitted to DCS. Letters of review from boards of health, appeals and recreation, watershed team leader, and conservation commission are desirable. If any of these groups recommends changes, consider revising your draft, and respond respectfully.

The Approval Process

The only “approval” required for your plan is from the Division of Conservation Services. An approved plan makes your community eligible to participate in DCS grant rounds for a period of up to five years. DCS approval is limited to a review of the required elements and format of the plan. It is the public participation and comments that are critical to securing local “approval” of the plan. Some communities choose to obtain Town Meeting or City Council approval of their reports, but this is not required.

You may concurrently submit one copy of your draft to DCS for review while other municipal boards review the report. (The required letters of review must be provided to DCS with the final plan.) DCS may require changes, so do not have multiple final copies printed until DCS issues a letter of approval.

Formatting and Publishing Your Final Report

All final, approved plans must be bound, legible, include numbered pages and a table of contents. The cover and title page must be dated. The plan must follow the format of EOEA's *Open Space and Recreation Plan Requirements* as they may be amended. Maps must be included with the plan, perhaps reproduced as an 8½” by 11”, or 11” by 17” foldout version for each of the maps included in the plan. (Larger sized maps are recommended for presentation use, but printing multiple copies for each report may be too costly.)

Once the plan is approved by DCS, a final copy should be provided to all town boards and agencies. DCS should receive a final bound hard copy, and an electronic one as well if available. Provide your local library with at least two copies for general reference. If the option is available, it is a good idea to publish the plan on your local municipal website in addition to making hard copies available for review at the library.

SECTION 11 - REFERENCES

Cite all the reference documents you used and experts you contacted in preparing your community's Open Space and Recreation Plan.